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Office on Drugs and Crime

2007

WORLD DRUG REPORT

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2007

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Contents

Preface 1
Introduction 3
Explanatory notes 5
Executive Summary 7

1. TRENDS IN WORLD DRUG MARKETS

1.1 Overview
1.1.1 Global evolution 25
1.1.2 Global outlook 35
1.2 Opium / Heroin market
1.2.1 Summary trend / overview 37
1.2.2 Production 38
1.2.3 Trafficking 45
1.2.4 Abuse 55
1.3 Coca / Cocaine market
1.3.1 Summary trend / overview 63
1.3.2 Production 64
1.3.3 Trafficking 70
1.3.4 Abuse 82
1.4 Cannabis market
1.4.1 Summary trend / overview 95
1.4.2 Production 96
1.4.3 Trafficking 105
1.4.4 Abuse 114
1.5 Amphetamine-type stimulants market
1.5.1 Summary trend / overview 123
1.5.2 Production 124
1.5.3 Trafficking 134
1.5.4 Abuse 150

2. INVISIBLE EMPIRE OR INVISIBLE HAND?
ORGANIZED CRIME AND TRANSNATIONAL DRUG TRAFFICKING

2.1 Introduction 169
2.2 Assessing the degree of organization 171
2.3 Cocaine via Central America to the United States 174
2.4 Heroin via Central Asia to the Russian Federation 182
2.5 Tracking Trafficking 189

3. STATISTICAL ANNEX

3.1 Production
- 3.1.1 Afghanistan 195
- 3.1.2 Bolivia 201
- 3.1.3 Colombia 205
- 3.1.4 Lao PDR 209
- 3.1.5 Myanmar 212
- 3.1.6 Peru 217

3.2 Seizures 221

3.3 Seizures of illict laboratories 222

3.4 Prices
- 3.4.1 Opiates: Wholesale, street prices and purity levels 223
- 3.4.2 Cocaine: Wholesale, street prices and purity levels 228
- 3.4.3 Cannabis: Wholesale, street prices and purity levels 232
- 3.4.4 Amphetamine-type stimulants: Wholesale, street prices and purity levels 237

3.5 Consumption
- 3.5.1 Annual Prevalence
  - 3.5.1.1 Opiates 241
  - 3.5.1.2 Cocaine 243
  - 3.5.1.3 Cannabis 244
  - 3.5.1.4 Amphetamine-type stimulants (excluding ecstasy) 246
  - 3.5.1.5 Ecstasy 248
- 3.5.2. Treatment Demand
  - 3.5.2.1 Primary drugs of abuse among persons treated for drug problems in Africa 249
  - 3.5.2.2 Primary drugs of abuse among persons treated for drug problems in America 250
  - 3.5.2.3 Primary drugs of abuse among persons treated for drug problems in Asia 251
  - 3.5.2.4 Primary drugs of abuse among persons treated for drug problems in Europe 252
  - 3.5.2.5 Primary drugs of abuse among persons treated for drug problems in Oceania 253

4. METHODOLOGY 257

Preface

Something new and significant is going on in the world drugs market. In last year's *World Drug Report* we made the argument that drug control is working and the world drug problem is being contained. This *2007 Report* provides further robust evidence of this trend. For almost every kind of illicit drug - cocaine, heroin, cannabis and amphetamine-type stimulants (ATS) - there are signs of overall stability, whether we speak of cultivation, production or consumption. Hopefully, within the next few years evidence to support this claim will become statistically and logically incontrovertible.

This does not mean that the drug problem has been solved or that we can become complacent. Nor is the good news universal. Progress made in some areas is often offset by negative trends elsewhere. But overall, we seem to have reached a point where the world drug situation has stabilized and been brought under control.

The first encouraging sign is that coca cultivation in the Andean countries continues to fall, driven by significant declines in Colombia. Global demand for cocaine has also stabilized, although the decline in the United States is offset by alarming increases in some European countries. Secondly, the production and consumption of ATS has levelled off, with a clear downward trend in North America and, to a lesser degree, Europe. Thirdly, the health warnings on higher potency cannabis, delivered in past *World Drug Reports*, appear to be getting through. For the first time in years, we do not see an upward trend in the global production and consumption of cannabis. Fourthly, opium production, while significant, is now highly concentrated in Afghanistan's southern provinces. Indeed, the Helmand province is on the verge of becoming the world's biggest drug supplier, with the dubious distinction of cultivating more drugs than entire countries such as Myanmar, Morocco or even Colombia. Curing Helmand of its drug and insurgency cancer will rid the world of the most dangerous source of its most dangerous narcotic, and go a long way to bringing security to the region.

Another source of good news is that drug law enforcement has improved: almost half of all cocaine produced is now being intercepted (up from 24% in 1999) and more than a quarter of all heroin (against 15% in 1999).

These positive developments are not attributable to a single specific factor: drug trends respond to long-term policy and to changes in society at large, not to individual causes. Yet chronologically there is a clear correlation between UN-led drug control efforts and the current recession in the drug economy. In other words, the world seems to be taking seriously the commitment made at a UN General Assembly Special Session in 1998 to take enhanced action to reduce both the illicit supply of, and the demand for drugs by 2008.

The situation, while stable, is fragile and could be undone by any number of factors. More importantly, since there are still 25 million problem drug users in the world, there is plenty of room for improvement.

Supply: Southeast Asia is closing a tragic chapter that has blighted the Golden Triangle for decades - the region is now almost opium free. Yet it is not free of poverty and therefore farmers remain vulnerable to the temptations of illicit incomes. Much more assistance - for alternative crops and also for viable income substitution - is needed to ensure that drug-free development is sustained in the greater Mekong basin. The same logic applies in Afghanistan and the Andean countries. Rewarding licit rural activity and promoting development will encourage farmers to voluntarily give up their illicit crops in a way that will offer them brighter, and longer-lasting prospects than forced eradication.

The general political context also shapes drug supply. Drug cultivation thrives on instability, corruption and poor governance. The world's biggest drug producing centres are in regions beyond the control of the central government, like South Afghanistan, South-West Colombia and East Myanmar. Until government control, democracy and the rule of law are restored, these regions will remain nests of insurgency and drug production - and represent the biggest challenge to containment.

Trafficking: Organized crime seeks the path of least resistance. Many trafficking routes traverse zones of instability, and where corruption negates interdiction. The challenge is to block these routes by increasing law enforcement, stopping the diversion of precursor chemicals, improving the integrity of the judicial system, and - not least -- fighting corruption among officials at borders and in local administrations. Otherwise, as in parts of Central America, the Caribbean and the Balkans, countries will be caught in the crossfire of drug-related crime. As this *Report* shows, there are warning signs that Africa is also under attack, targeted by cocaine traffickers from the West (Colombia) and heroin smugglers in the East (Afghanistan). This threat needs to be addressed quickly to stamp out drug-related crime, money-laundering and corruption, and to prevent the spread of drug use that could cause havoc across a continent already plagued by other tragedies.

All over the world, regional cooperation is essential. In 2007, UNODC looks forward to the opening of regional counter-narcotic information-sharing centres in Central Asia and the Gulf. The time is ripe to consider the creation of a similar mechanism to facilitate drug-related intelligence cooperation in South East Asia.

Seizing cannabis and ATS is more difficult because of short supply routes. In many cases, these drugs are produced and consumed in the same country, even the same town, making them available, affordable, and in some cases publicly acceptable. That suggests that for these, as for other types of controlled substances, the greatest challenge is to raise awareness about the damage to health and reduce demand.

Demand: To move beyond containment and to reduce the risk of drugs to public health and public security, more attention must be paid to drug prevention and treatment. While much of this *2007 Report* looks at world drug trends in terms of cultivation, production, seizures and prices, these are just the symptoms. If the drug problem is to be reduced in the longer term, there must be more intervention at the level of consumption, to treat the problem at its source - the drug users.

Drug addiction is an illness that can be prevented and treated. Early detection, greater prevention efforts, better treatment of addiction, and integration of drug treatment into public health and social services programs, can free people from the nightmare of addiction. Treating those who suffer from drugs is an investment in the health of our nations as much as treating HIV, diabetes or TB.

Also, because drugs are a health problem that tends to turn into a social problem, their abuse must be addressed by all of society. As parents, teachers, co-workers and good citizens we must help people take control of their lives, rather than have them controlled by drugs.

Looking forward, while containment of the drug problem seems to be a reality, further changes are needed to create a paradigm shift. This is a shared responsibility: *internationally* - between producing and consuming states; *regionally* - among neighbouring countries; and *nationally* - among all sectors of society. Let us each assume our share of that responsibility, in order to improve both public health and public security across the world.

Antonio Maria Costa
Executive Director
United Nations *Office on Drugs and Crime*

Introduction

The United Nations Office on Drugs and Crime (UNODC) is a global leader in the multilateral effort against illicit drugs and international crime. The three pillars of its work programme are:

- Research and analytical work to increase knowledge and understanding of drugs and crime issues and expand the evidence-base for policy and operational decisions;
- Normative work to assist States in the ratification and implementation of the international treaties, the development of domestic legislation on drugs, crime and terrorism, and the provision of secretariat and substantive services to the treaty-based and governing bodies; and
- Field-based technical cooperation projects to enhance the capacity of Member States to counteract illicit drugs, crime and terrorism.

Recognizing the importance of comprehensive, factual and objective information in the field of international drug control, the General Assembly entrusted UNODC with the mandate to publish "comprehensive and balanced information about the world drug problem" in 1998. UNODC has published such assessments annually since 1999.

This year, the Report has been reworked into a one-volume format. The detailed seizures tables which were previously presented in the second section of Volume II under the title "Seizures," are now available on UNODC's website. A PDF file containing the detailed seizure tables is available for review and downloading at: *www.unodc.org/unodc/en/world_drug_report.html* (the same location as the Report). The detailed seizure tables are also available on CD by request. CDs can be ordered via the following email address: *RAS@unodc.org*

The Report continues to provide trend analysis of the global situation and of the four main drug markets in its first section. In addition, this year's Report contains an in depth look into the relationship between translational organised crime and drug trafficking. The report also contains a small statistical annex which provides detail on production, prices and consumption. The Report's coverage remains comprehensive and it tries to give the reader a complete picture of the world's drug problem.

As in previous years, the Report is based on data obtained primarily from the Annual Reports Questionnaire (ARQ) sent by Governments to UNODC in 2006, supplemented by other sources when necessary and where available. Two of the main limitations herein are: (i) that ARQ reporting is not systematic enough, both in terms of number of countries responding and of content, and (ii) that most countries lack the adequate monitoring systems required to produce reliable, comprehensive and internationally comparable data. National monitoring systems are, however, improving and UNODC has contributed to this process.

Electronic copies of the *World Drug Report 2007* report can be accessed via the UNODC website at *www.unodc.org.* Comments and feedback on the report can be sent to: *worlddrugreport@unodc.org.*

Explanatory notes

This report has been reproduced without formal editing.

The designations employed and the presentation of the material in this publication do not imply the expression of any opinion whatsoever on the part of the Secretariat of the United Nations concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries.

Countries and areas are referred to by the names that were in official use at the time the relevant data were collected.

In various sections, this report refers to a number of regional designations. These are not official designations. They are defined as follows: West and Central Europe: EU 25 plus EFTA plus San Marino and Andorra; East Europe: European CIS countries; Southeast Europe: Turkey and the non-EU Balkan countries; North America: Canada, Mexico and United States of America.

The following abbreviations have been used in this report:

ARQ	Annual reports questionnaire
ATS	Amphetamine-type stimulants
CICAD	Inter-American Drug Abuse Control Commission
CIS	Commonwealth of Independent States
DEA	United States of America, Drug Enforcement Administration
DELTA	Database on Estimates and Long Term Trend Analysis
DUMA	Drug Use Monitoring in Australia
EMCDDA	European Monitoring Centre for Drugs and Drug Addiction
ESPAD	European School Survey Project on Alcohol and other Drugs
F.O.	UNODC Field Office
Govt.	Government
ICMP	UNODC Global Illicit Crop Monitoring Programme
INCB	International Narcotics Control Board
INCSR	United States of America, International Narcotics Control Strategy Report
Interpol	International Criminal Police Organization
LSD	lysergic acid diethylamide
NAPOL	National Police
PCP	phencyclidine
THC	tetrahydrocannabinol
UNAIDS	Joint and Co-sponsored United Nations Programme on Human Immunodeficiency Virus/Acquired Immunodeficiency Syndrome
UNODC	United Nations Office on Drugs and Crime
WCO	World Customs Organization
WHO	World Health Organization

Weights and measurements

u.	Unit
lt.	Litre
kg	Kilogram
ha	Hectare
mt	Metric ton

Executive Summary

1. Trends in World Drug Markets

1.1 Overview

Evolution of the world drug problem

The world's drug problem is being contained. In 2005/06, the global markets for the main illicit drugs – the opiates, cocaine, cannabis, and amphetamine-type stimulants – remained largely stable. Particularly notable is the stabilisation seen in the cannabis market, which had been expanding rapidly for some time. In line with a long-term trend, the share of total drug production that is seized by law enforcement has also increased – some 42 per cent of global cocaine production and 26 per cent of global heroin production never made it to consumers.

Of course, within this aggregated picture, there remains considerable variation. Most notably, heroin production continued to expand in the conflict-ridden provinces of southern Afghanistan. While global heroin consumption does not appear to be growing, the impact of this surge in supply needs to be monitored carefully.

How is drug production changing?

Most of the world's drug markets start with the farmer. Unlike other crops, however, the cultivation of opium poppy, coca leaf and cannabis take place under threat of eradication, and so the location and the number of hectares tilled vary substantially from year to year. UNODC, in cooperation with the relevant national authorities, conducts drug crop monitoring surveys in all of the world's major opium poppy and coca producing countries. Changes in the number and location of hectares under cultivation, as well as crop yields, can thus be tracked with some precision.

Around 92 per cent of the world's heroin comes from poppies grown in Afghanistan. Despite a massive increase in opium poppy cultivation in Afghanistan in 2006, the global area under poppy was actually 10 per cent lower than in 2000. This decline was mainly due to sustained success in reducing cultivation in South-East Asia. Poppy cultivation in the Golden Triangle has fallen by some 80 per cent since 2000.

Most of the world's cocaine comes from coca leaf cultivated in Colombia, Peru and Bolivia. The global area under coca cultivation fell by 29 per cent to some 156,900 hectares between 2000-2006, largely due to reductions of coca cultivation in Colombia. The areas under coca cultivation in Peru and Bolivia increased over this period but remained significantly below the levels reported a decade earlier.

As discussed in last year's *World Drug Report*, it is impossible to accurately estimate the location and total number of hectares under cannabis, because it is grown in at least 172 countries, often in small plots by the users themselves. The one country where reliable estimates are available is Morocco, the source of about 70 per cent of the hashish consumed in Europe. UNODC and the Government of Morocco have been monitoring large-scale hashish production since 2003. Based on these surveys, cannabis cultivation in Morocco has declined in recent years, from a peak of 134,000 hectares in 2003 to just 76,400 hectares in 2005. Outside Morocco, there have been few national or regional studies of the extent of cannabis cultivation.

There is an important distinction between the extent of drug crop cultivation and the extent of drug production, however. Crop yields can be affected by weather conditions and changes in production technology, among other things. As a result, long-term declines in cultivated area do not necessarily translate into declines in total production. Opium production in Afghanistan rose almost 50 per cent in 2006, bringing gobal heroin production to a new record high of 606 mt in 2006, exceeding the previous high (576 mt in 1999) by 5 per cent. Similarly, the success in the reduction of coca cultivation from 2000 to 2006 has not led to a commensurate decline in cocaine production, apparently due to improvements in coca cultivation and cocaine production technology. Cocaine production has remained largely stable over the last few years, estimated at 984 mt in 2006.

Amphetamine-type stimulants are manufactured illicitly using legally-produced precursors, and thus global production can only be estimated indirectly. This production appears to be stable, however, at about 480 mt in

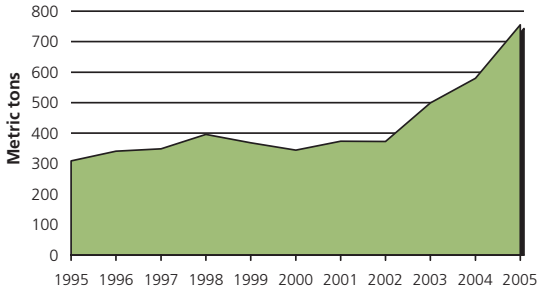
2005. At the same time, seizures of ATS labs and precursors declined dramatically, likely a result of improved precursor control and significant reductions in domestic production operations in key markets such as the USA.

How is drug interdiction changing?

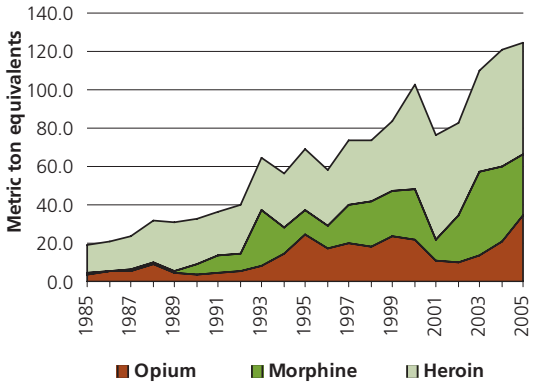
An increasingly large share of the world's drug supply is being seized by law enforcement agencies each year. In 2005, 42 per cent of global cocaine production and 26 per cent of global heroin production was intercepted by the authorities. With regard to heroin, this means that the amount available to the consumer in 2005 was actually 5 per cent lower than in 2000 and 8 per cent lower than a decade before. Cocaine seizures have increased even more markedly, up from just 24 per cent of production in 2000. Improved cooperation among law enforcement bodies has led to improved seizures close to the source. In fact, 58 per cent of global cocaine seizures took place in South America, the Caribbean and Central America in 2005.

In the last decade, the most significant seizure trend has been the increase in the number of seizures of amphetamine-type stimulants (ATS). These seizures peaked in 2000 at 49 mt, before dropping over the following four years. In 2005, they began to rise again, to 43 mt.

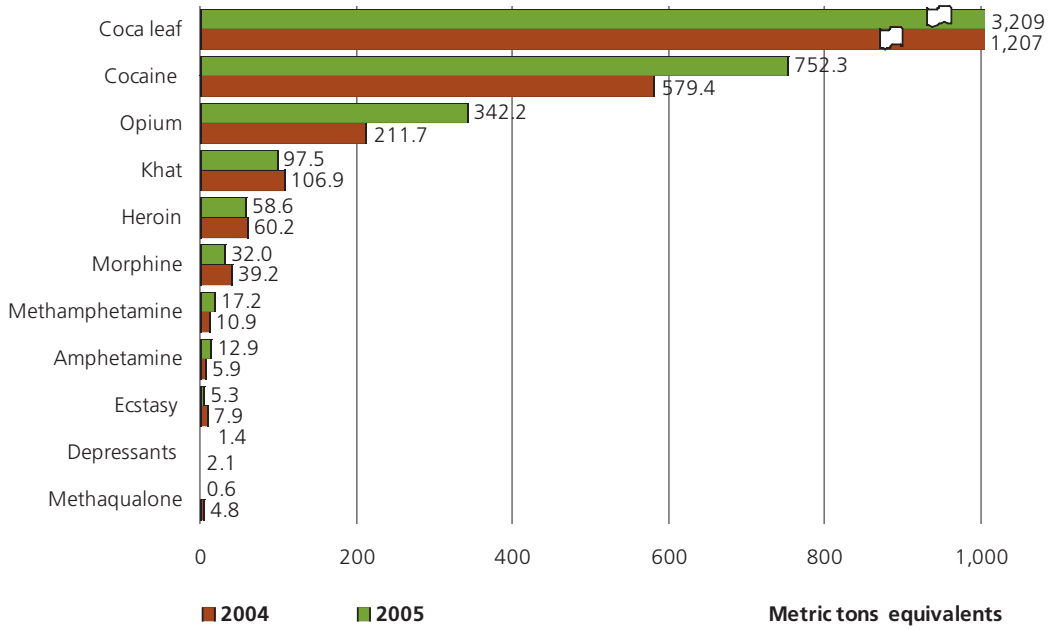
World cocaine seizures, 1995-2005



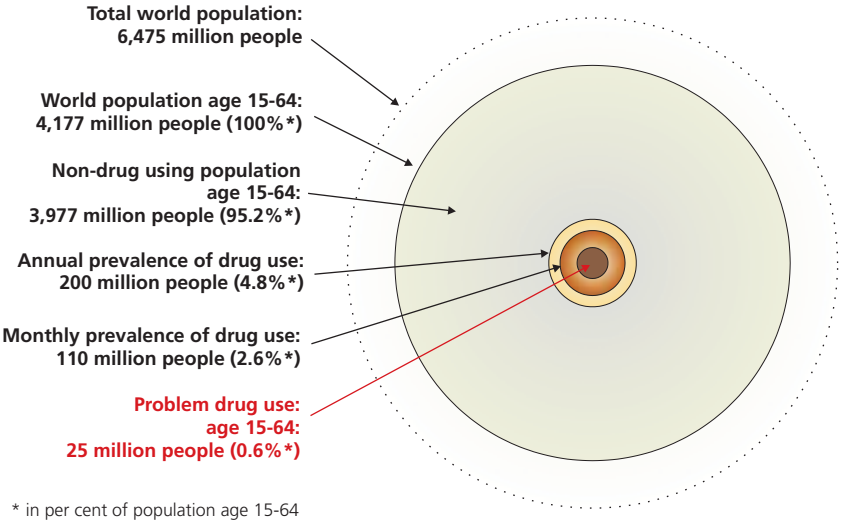
Global opiate seizures, expressed in heroin equivalents, by substance, 1985-2005



Global drug seizures, excluding cannabis, 2004-2005



Illegal drug use at the global level (2005/2006)



* in per cent of population age 15-64

Herbal cannabis seizures, in contrast, were down in 2005, a trend seen across continents. The reasons for this decline are due to increased eradication and are occurring in the context of stabilised demand and may be related to decreased transnational trafficking due to a growing reliance on domestic cultivation. Cannabis resin seizures were also down, but this can be directly tied to the decline in hashish production in Morocco.

How is drug use changing?

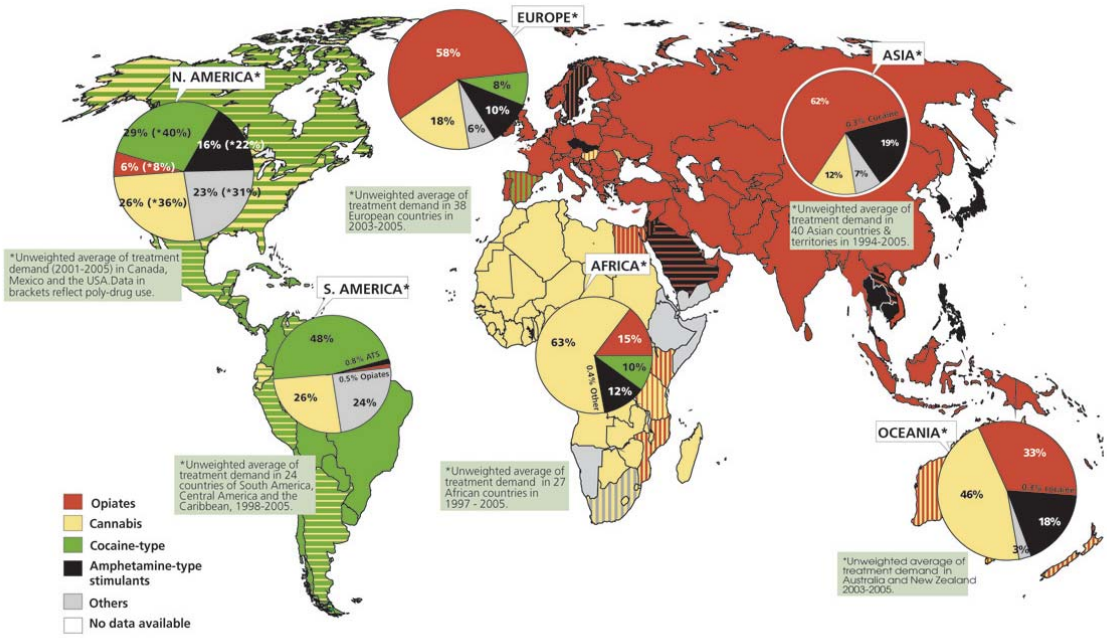
While a large share of the world's population uses illicit drugs each year (about 5 per cent of the population between the ages of 15 and 64), only a small share of these can be considered "problem drug users" (0.6%). About 200 million people use drugs each year globally. Unsurprisingly, the main problem drugs at the global level continue to be the opiates (notably heroin), followed by cocaine. For most of Europe and Asia, opiates continued to be the main problem drug; in South-America, drug related treatment demand continued to be mainly linked to the abuse of cocaine; and in Africa, the bulk of all treatment demand is linked to cannabis.

Extent of drug use (annual prevalence*) estimates 2005/6 (or latest year available)

	Cannabis	Amphetamine-type stimulants		Cocaine	Opiates	of which heroin
		Amphetamines	Ecstasy			
(million people)	**158.8**	**24.9**	**8.6**	**14.3**	**15.6**	**11.1**
in % of global population age 15-64	3.8%	0.6%	0.2%	0.3%	0.4%	0.3%

* Annual prevalence is a measure of the number/percentage of people who have consumed an illicit drug at least once in the 12 month-period preceding the assessment.

Main problem drugs (as reflected in treatment demand), 2005 (or latest year available)

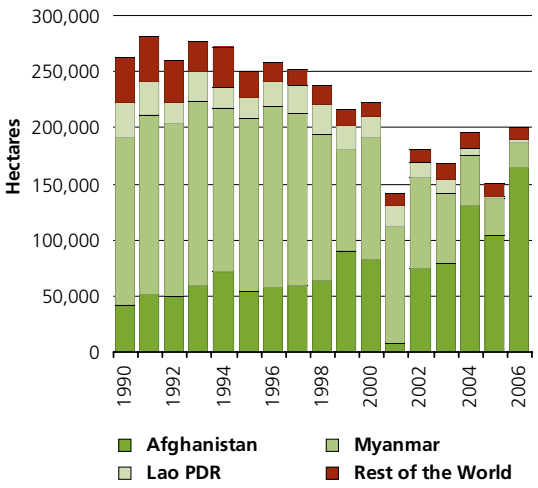


1.2 Opium/Heroin Market

At least in the short-term, conditions in the world's heroin markets will be determined by what happens in southern Afghanistan, as the country was responsible for 92 per cent of global opium production in 2006. For no other drug is production so concentrated in a single area. This concentration went hand in hand with a remarkable long-term progress in eliminating other sources of supply, principally in South-East Asia. Poppy cultivation in South-East Asia is down by more than 85 per cent over the last decade. Between 2005 and 2006 alone, poppy cultivation in South East Asia declined from 35,000 hectares to 24,000 hectares.

The significance of the contraction in opium cultivation in Myanmar and Laos cannot be overstated. Although opium poppy cultivation in Afghanistan increased massively in 2006, the global area under illicit poppy cultivation was still 10 per cent lower in 2006 than in 2000, due to reduction in South-East Asia. But despite the reduction in the area under cultivation, potential heroin production is up, because Afghan fields are more productive than fields in South-East Asia. In 2006, global opium production soared to a new record high of 6,610 mt, a 43 per cent increase over 2005.

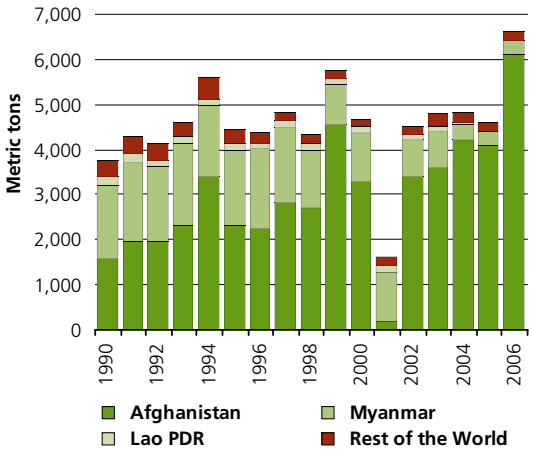
Global opium poppy cultivation (hectares), 1990-2006



Under these conditions, with a surge in supply and stable demand, a price decline would be expected near the source, but opiate prices are not easy to predict,

because the global dynamics of this market are not well understood. Despite the 49 per cent increase in production in Afghanistan in 2006, opium prices actually fell by just 17 per cent in the country. This could suggest that there is substantial stockpiling, but there is little evidence as to where and how it is occurring.

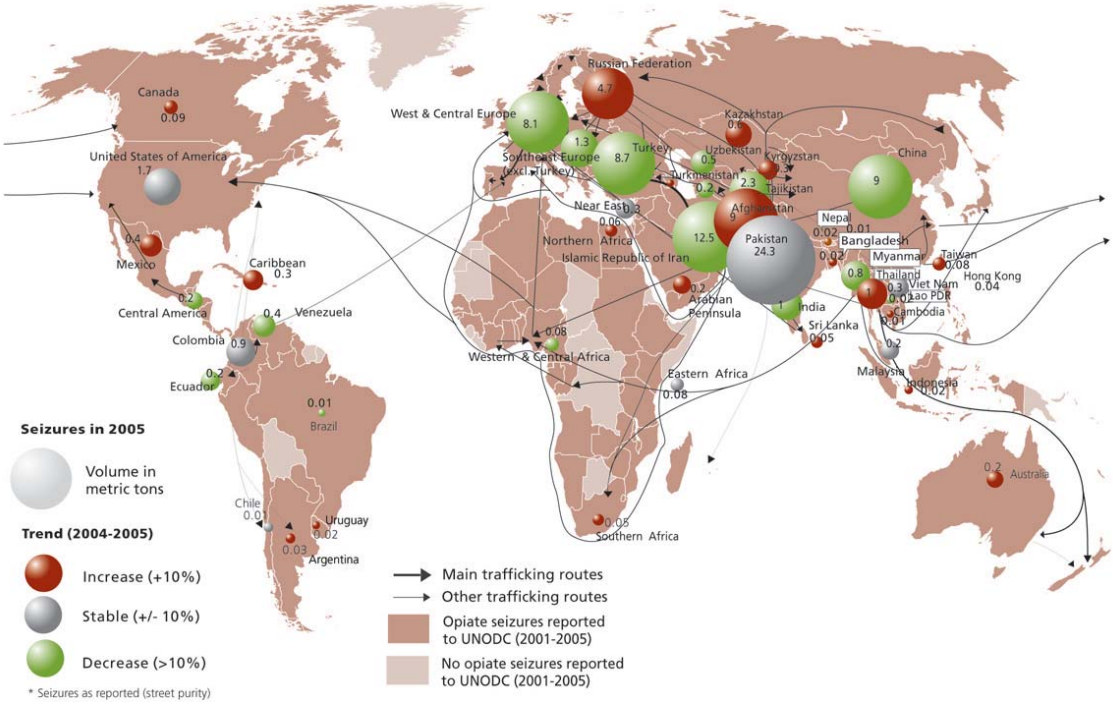
Global opium production, 1990-2006



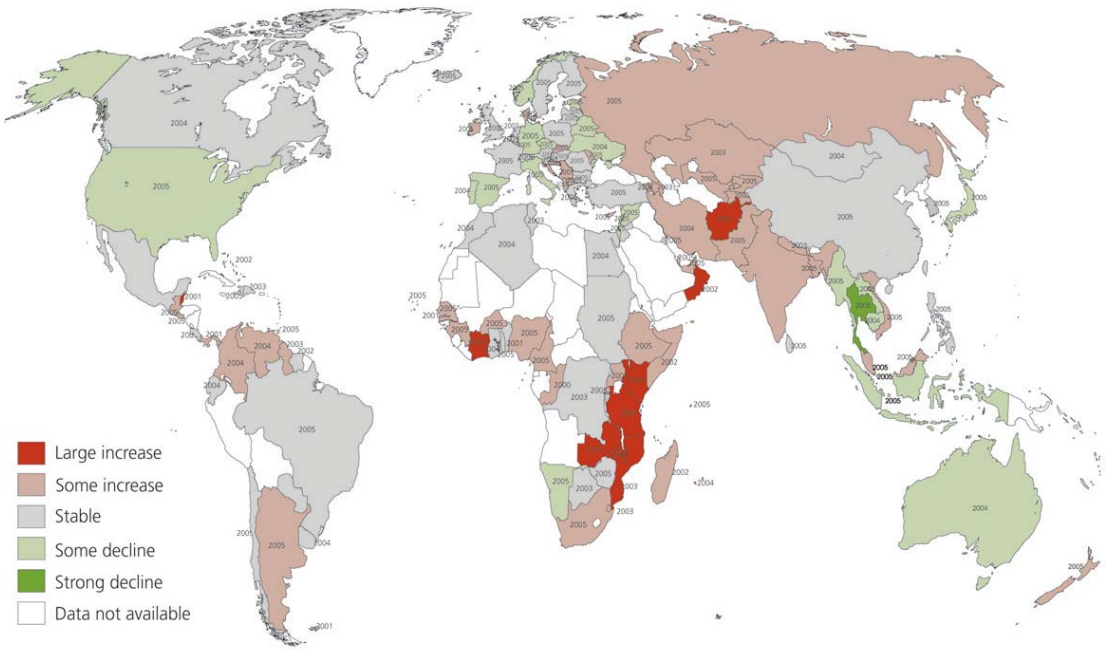
In recent years, the world heroin market has been divided into three regional submarkets. Afghan opiates have supplied the markets of neighbouring countries, Europe, the Near and Middle East, and Africa. Opiates produced in South-East Asia have supplied the markets of China and other South-East Asian countries, as well as Oceania. Opiates produced in Latin America supplied the North American market. However, it appears that cross-regional trafficking is gaining in importance. For example, there are indications that a small but increasing proportion of opiates from Afghanistan are being trafficked to North America, either via eastern and western Africa, or via Europe.

Overall, the consumer market has remained encouragingly stable, despite important increases in the countries along major trafficking routes. Countries experiencing an increase in heroin usage include those surrounding Afghanistan (Pakistan, Iran and Central Asia), as well as Russia, India and parts of Africa. Many of these areas have high levels of poverty and HIV, leaving them vulnerable to the worst effects of this drug. It is important that these trends are carefully monitored over the coming years.

Trafficking in heroin and morphine seizures, 2005 (countries reporting seizures* of more than 10 kg)



Changes in the use of heroin and other opiates, 2005 (or latest year available)



1.3 Coca/Cocaine Market

The global cocaine market is largely stable in terms of both supply and demand. Supply stability has been achieved only through intensive eradication efforts, especially in Colombia. The area under coca cultivation fell by 29 per cent between 2000-2006, including a 52 per cent reduction in the area under coca cultivation in Colombia. The areas under coca cultivation in Peru and Bolivia increased over this period but remained significantly below the levels reported a decade earlier, reflecting long-term supply reduction.

Though contained, there are indications that the supply side of this market remains adaptive. The success in the reduction of coca cultivation from 2000 to 2006 did not lead to a decline in cocaine production. In recent years, the use of fertilizers and pesticides, and better production technology, have improved coca yields, leaving cocaine production largely stable over the last few years (1,008 mt in 2004, 980 mt in 2005, 984 mt in 2006).

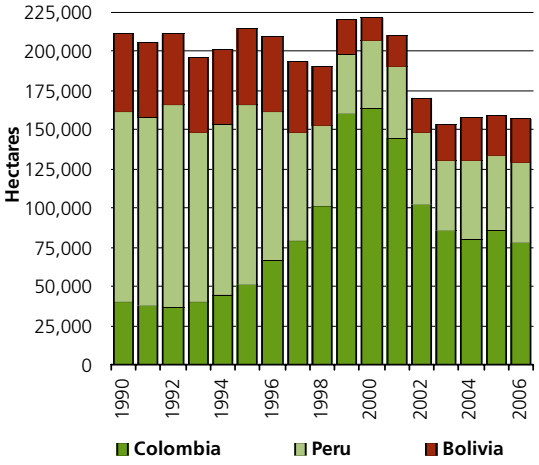
With production largely stable, there are encouraging signs that progress is being made at reducing supply through growing rates of interdiction. Overall, the interception rate rose from 24 per cent in 2000 to 42 per cent in 2006. Improved cooperation among law enforcement bodies in and across countries appears to have led to an increase in seizures in and around the producer countries. In fact, 58 per cent of global cocaine seizures took place in South America, the Caribbean and Central America in 2005. North America and Western/Central Europe, the two main cocaine consumption regions, also continued to seize large amounts of the drug (28 per cent and 14 per cent of global seizures respectively). The world's largest cocaine seizures in 2005 were, once again, made by Colombia, followed by the USA, Venezuela, Spain, Ecuador and Mexico.

Cocaine is frequently trafficked to Europe via the Caribbean region and, increasingly, via Africa. Over the 2000-2005 period, the largest increases in cocaine seizures were reported by countries in Africa and Western/Central Europe. In Africa, seizures rose sixfold, and in West and Central Europe they rose fourfold. The largest cocaine seizures in Europe in 2005 were made by Spain, followed by Portugal and the Netherlands, reflecting both strong national law enforcement activities and the increase in trafficking towards these countries – which contain vibrant consumer markets and which are the main entry points of cocaine into the European Union.

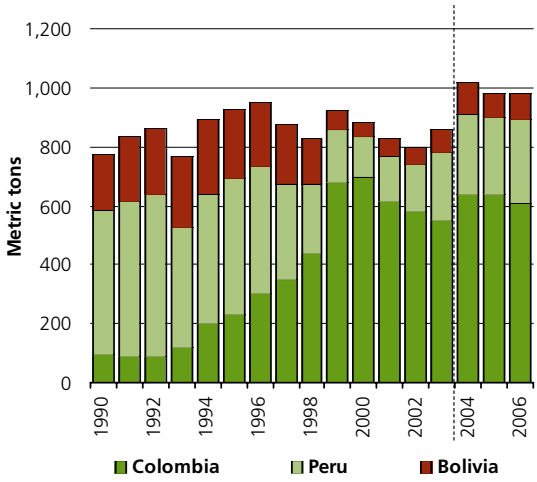
Similarly, rising levels of seizures in Africa reflect the fact that this continent, notably countries along the Gulf of Guinea and off the coast of Cape Verde, is increasingly being used as a transhipment point for cocaine from South America to markets in western Europe.

While the consumer market in North America has ceased to expand, cocaine is making worrying inroads into new and growing markets. Consumption increased significantly in Europe, doubling or tripling in several countries over the last decade. In Africa, notably in the countries of western Africa, cocaine use has also increased. Overall cocaine consumption levels in Europe are still significantly lower than in North America. However, Spain recently reported that, for the first time, cocaine annual prevalence levels exceeded those of the USA in 2005. High and rising levels of cocaine use have also been reported from the UK and Italy.

Global coca cultivation, 1990-2006

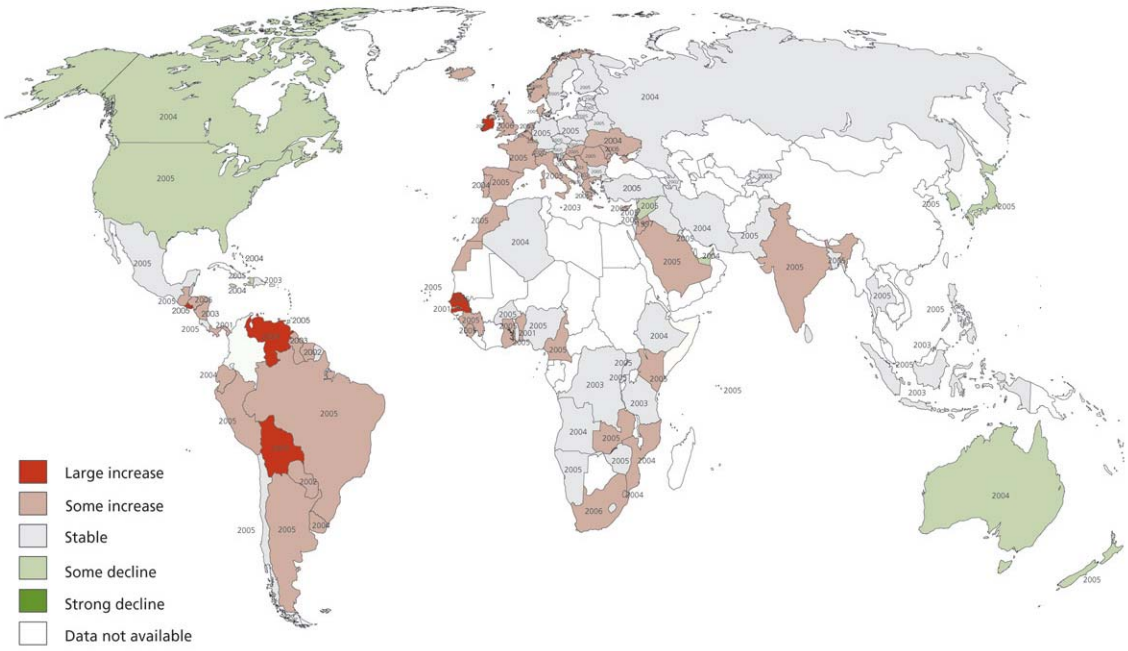


Global cocaine production*, 1990-2006



* revised data

Changes in the use of cocaine, 2005 (or latest year available)



1.4 Cannabis Market

Cannabis is the largest illicit drug market by far, including roughly 160 million annual consumers. The widespread nature of production and consumption make it very difficult to define and quantify. Reports received by UNODC suggest that cannabis production is taking place in at least 172 countries and territories.[1] Indications of an overall stabilisation in the market in 2005 are extremely encouraging but it remains to be seen whether this will emerge as a long-term trend.

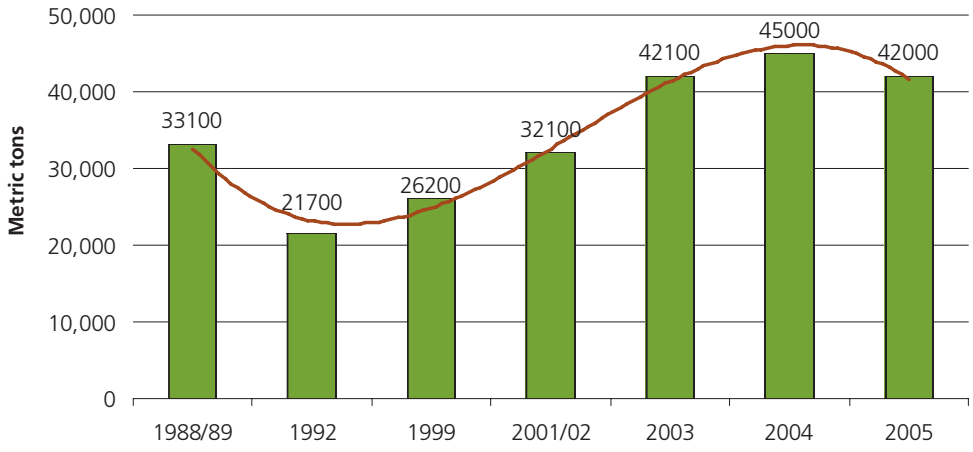
The production of cannabis resin (also known as hashish) is concentrated in North Africa (Morocco) and in the South-West Asia/Middle East region, particularly in Afghanistan and Pakistan. UNODC surveys conducted in collaboration with the Moroccan authorities revealed a fall in the area of cannabis resin cultivation in that country in recent years, from a peak of 134,000 ha in 2003 to 76,400 ha in 2005. Resin production declined even more strongly, from 3,070 mt in 2003 to 1,070 mt by 2005. Most of this production is consumed in Europe.

Cannabis herb seizures continue to be mainly concentrated in North America (66% of global seizures in 2005), followed by Africa (16%). Global seizures of cannabis herb showed a strong increase over the 2000-2004 period, a probable reflection of rising cannabis herb production, trafficking and consumption. However, in 2005, cannabis herb seizures declined substantially to the levels reported back in 2000. The decline was reported across all continents. Eradication played a role but other factors are not yet fully known. Sustained declines could also indicate a growing reliance on domestically produced cannabis.

Global cannabis resin seizures also declined in 2005 due to lower production of cannabis resin in Morocco. The world's largest cannabis resin seizures continued to be reported by Spain (52% of global hashish seizures in 2005), followed by Pakistan (7%) and Morocco (7%).

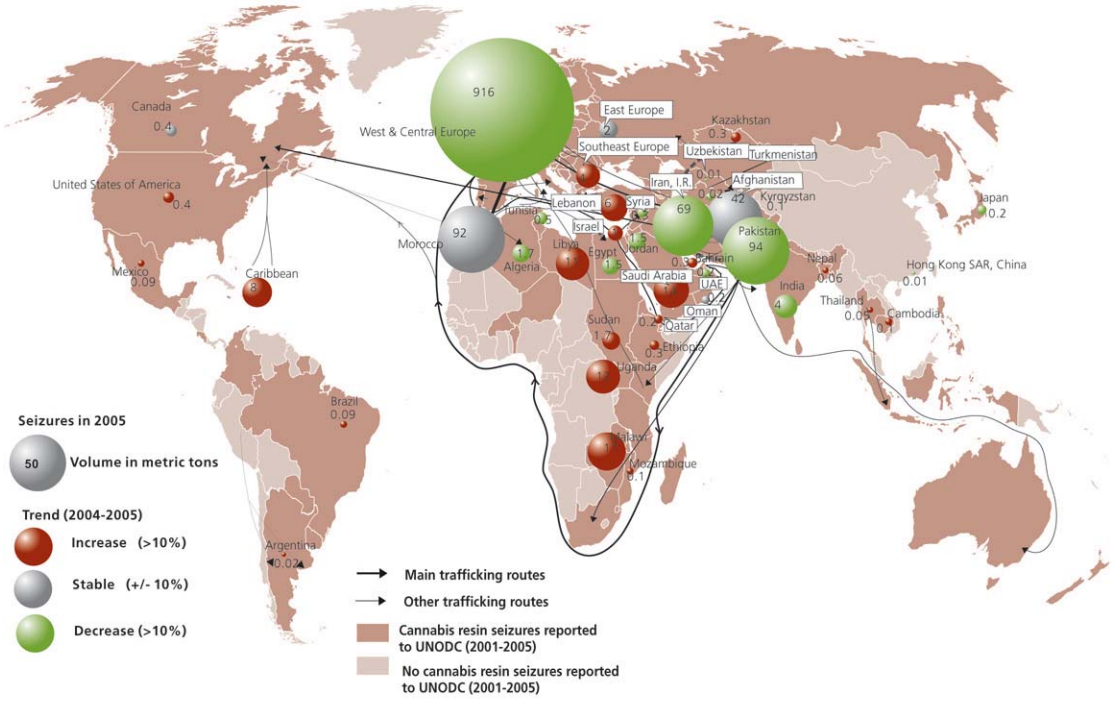
The consumer markets in North America appear to have contracted somewhat. A decline of cannabis use was also found in the Oceania region, which has the world's highest levels of prevalence rates for cannabis. But there has been a reported increase of cannabis use in Africa and in most countries of South America. The situation in Europe and Asia is mixed. The number of all countries reporting increases in cannabis use fell from 58 per cent of all countries reporting in 2000 to 45 per cent in 2005, while the number of countries reporting declines increased from 7 per cent in 2000 to 21 per cent in 2005.

Estimates of global cannabis herb production, 1988-2005

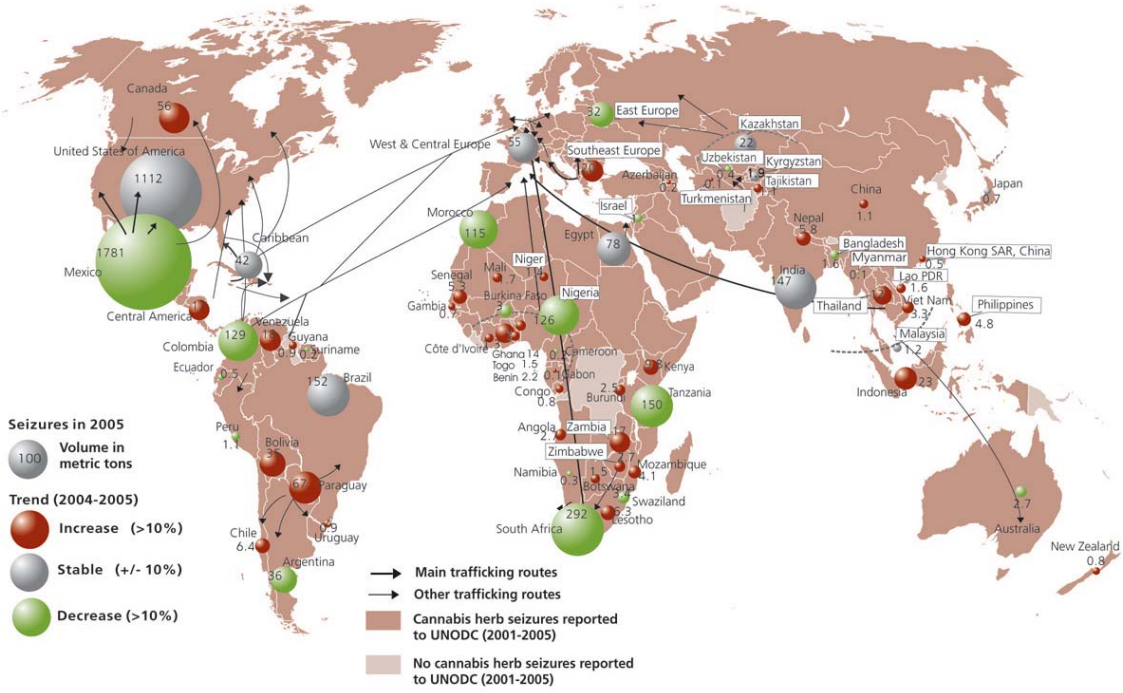


[1] A total of 82 countries explicitly reported the illicit cultivation of cannabis on their territory over the 1995-2005 period. In addition, Member States identified 134 source countries for the production of cannabis. Moreover, 146 countries reported seizing cannabis plants over the 1995-2005 period, which is an indirect indicator for the existence of cannabis plant production in a country, as cannabis plants are usually not trafficked across borders (only the end-products are). Combining these data suggests that cannabis production is taking place in at least 172 countries and territories.

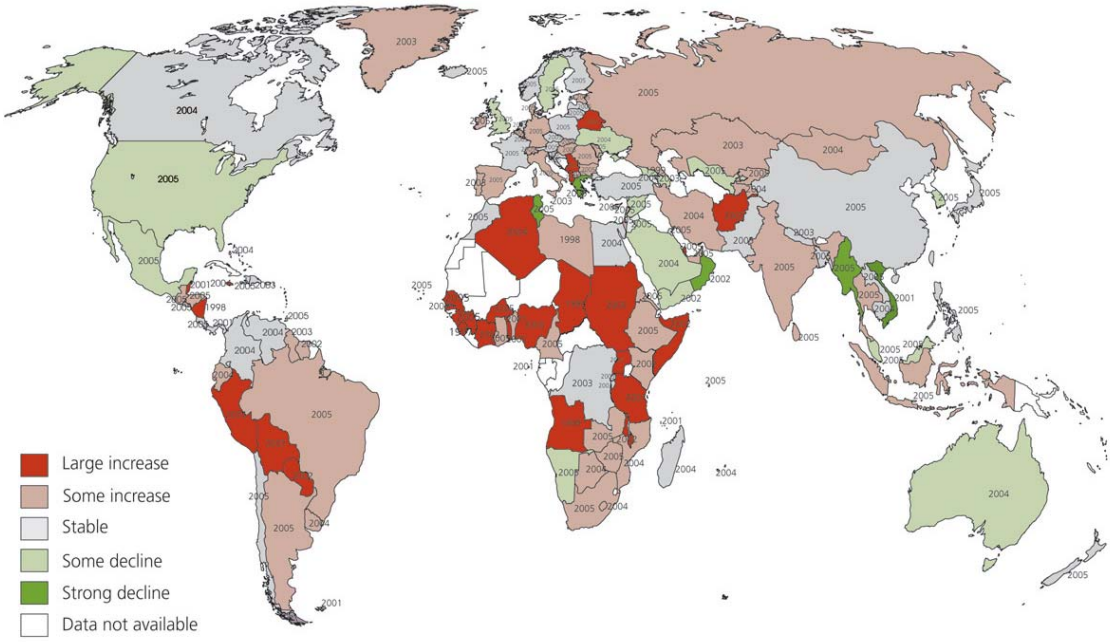
Trafficking in cannabis resin, 2005 (countries reporting seizures of more than 10 kg)



Trafficking in cannabis herb, 2005 (countries reporting seizures of more than 100 kg)



Changes in the use of cannabis, 2005 (or latest year available)



1.5 Amphetamine-type Stimulants Market

There has been an overall stabilisation of the ATS market. The alarming increases in the production of ATS throughout the 1990s seem to have levelled off over the last few years. This is likely a result of recent efforts to monitor and improve precursor control.

The largest production areas for methamphetamine continue to be in South-East Asia (including Myanmar, China and the Philippines) and in North America. Traditionally, the majority of methamphetamine in the USA was produced domestically, with the precursor chemicals smuggled into this country via Canada or Mexico. Improved controls in Canada and further tightening of controls in the USA have led to a decline in the number of clandestine laboratories operating within the USA and a shift of production across the border to Mexico. However, Mexico has now also improved its precursor control regime, prompting drug trafficking organizations to exploit other areas, such as Central America and possibly Africa.

In South Africa, where methamphetamine is produced for the domestic market, both production and consumption have increased. The Oceania region, notably Australia and New Zealand, continue to be important producers and consumers of methamphetamine, but there are no indications that these drugs are exported from there.

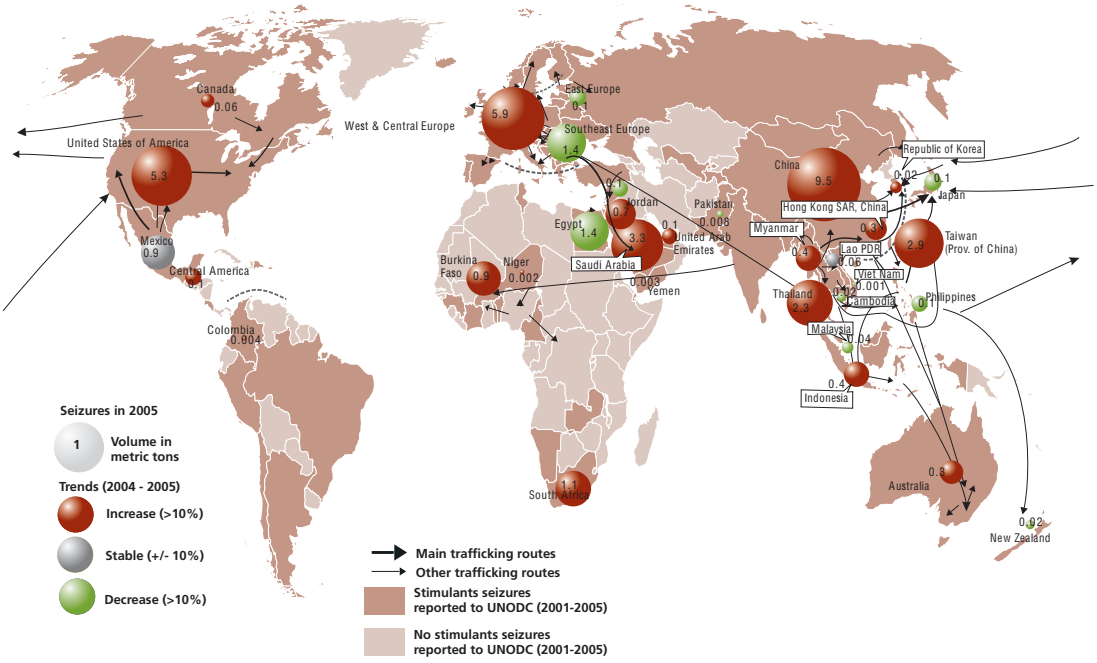
Amphetamine production continues to be primarily located in Europe, notably in the Netherlands and Poland, followed by the Baltic region and Belgium. Amphetamine production also takes place in North America (notably in the USA) and in South-East Asia.

Ecstasy production also continues to be largely concentrated in Europe, though the expansion of ecstasy production, in recent years, has mainly taken place outside Europe, notably in North America and in East and South-East Asia.

Global seizures of ATS continue to be dominated by seizures of methamphetamine. Over the 2000-2005 period, 49 per cent of ATS seizures were in the form of methamphetamine, 15 per cent in the form of amphetamine, and 14 per cent in the form of ecstasy. The trend in recent years, however, has been towards rising proportions of amphetamine and falling proportions of methamphetamine, reflecting improved control over the two main methamphetamine precursors, ephedrine and pseudo-ephedrine.

Global demand for amphetamines (methamphetamine and amphetamine), which increased strongly in most parts of the world in the 1990s, is now showing signs of overall stabilisation. At close to 25 million people, the global amphetamines consumer market is larger than

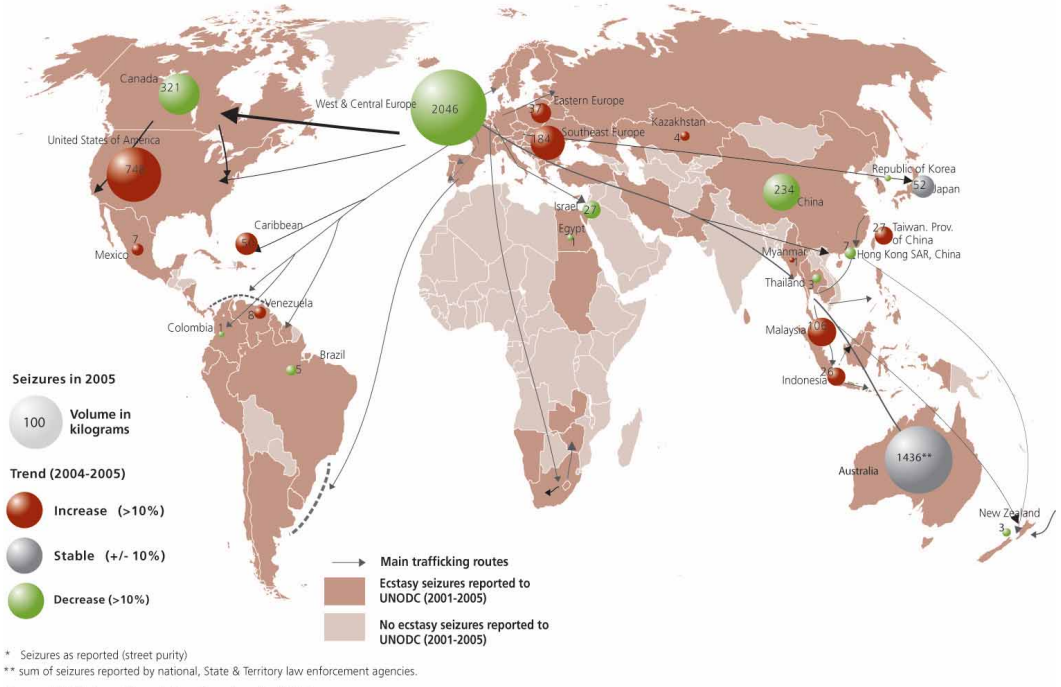
Trafficking in amphetamines, 2005 (countries reporting seizures* of more than 1 kg)



* Seizures as reported (street purity); units converted into weight equivalents (30mg per unit)

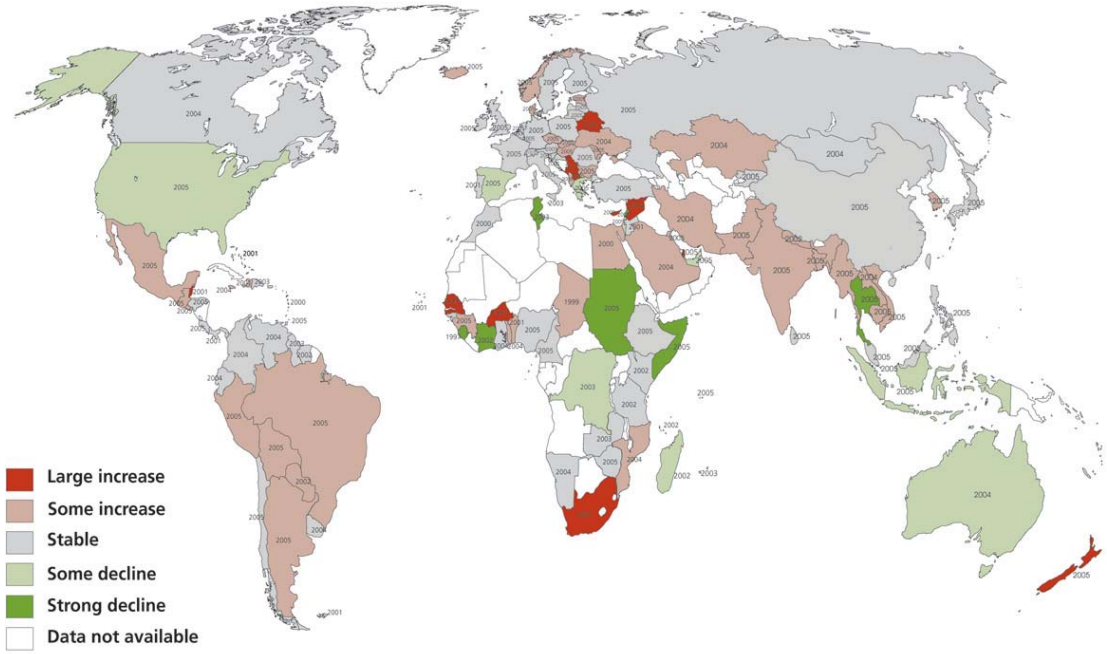
the markets for cocaine or heroin. Between 15-16 million of these users are thought to consume methamphetamine. Following the expansion of the consumer market throughout the 1990's, there have been consistent signs of slow down and stabilisation over the last few years, particularly in North America.

Trafficking in ecstasy, 2005 (countries reporting seizures* of more than 1 kg)

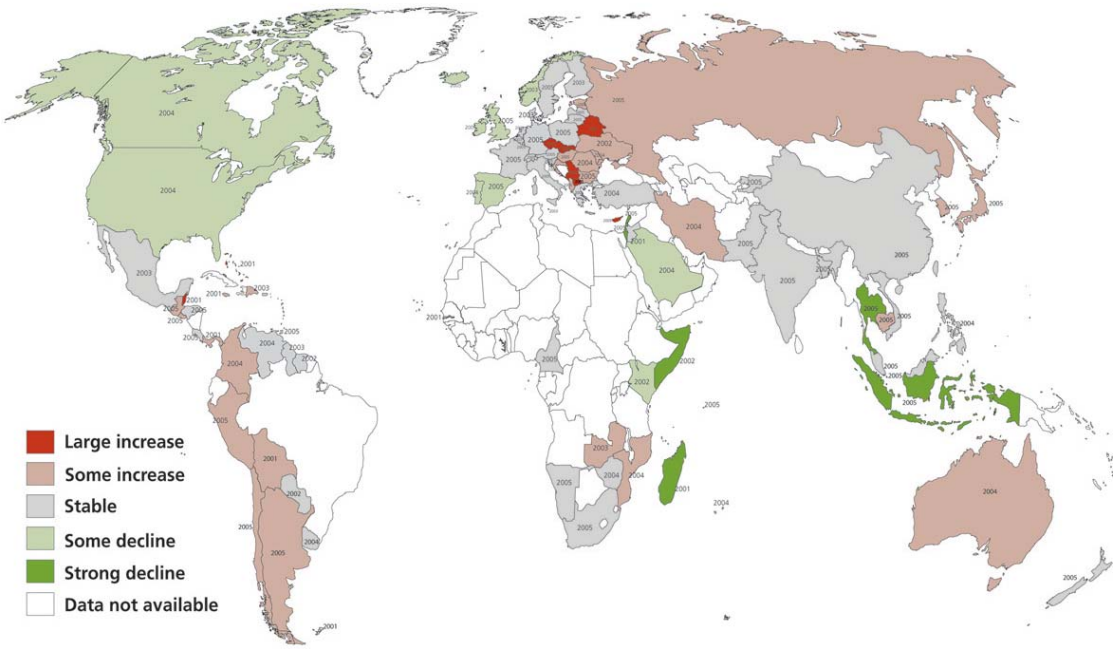


* Seizures as reported (street purity)
** sum of seizures reported by national, State & Territory law enforcement agencies.

Changes in the use of "amphetamines" (methamphetamine, amphetamine and related substances), 2005 (or latest year available)



Changes in the use of ecstasy (MDMA, MDA, MDEA), 2005 (or latest year available)



2. Invisible empire or invisible hand? Organized crime and transnational drug trafficking

Is transnational drug trafficking in the hands of large and organized criminal groups or is it mainly conducted by smaller and looser associations of smugglers? The answer to this question has implications for the way drug interdiction is approached. This question might be answered through existing indicators, particularly seizure figures, price data and drug use trends. In order to assess the potential of this approach, these indicators are explored in two of the world's largest value drug flows: the transhipment of cocaine via Central America to the USA and the trafficking of heroin through Central Asia to the Russian Federation.

Cocaine via Central America to the USA

This drug flow has surely become less centralised than it was during the days of the Cali and Medellin cartels, which dominated the cocaine market at all levels. But the size of the seizures made in this region, as well as low levels of drug use in the transit zone countries, suggest that cocaine trafficking remains highly organized and dominated by some very large organizations.

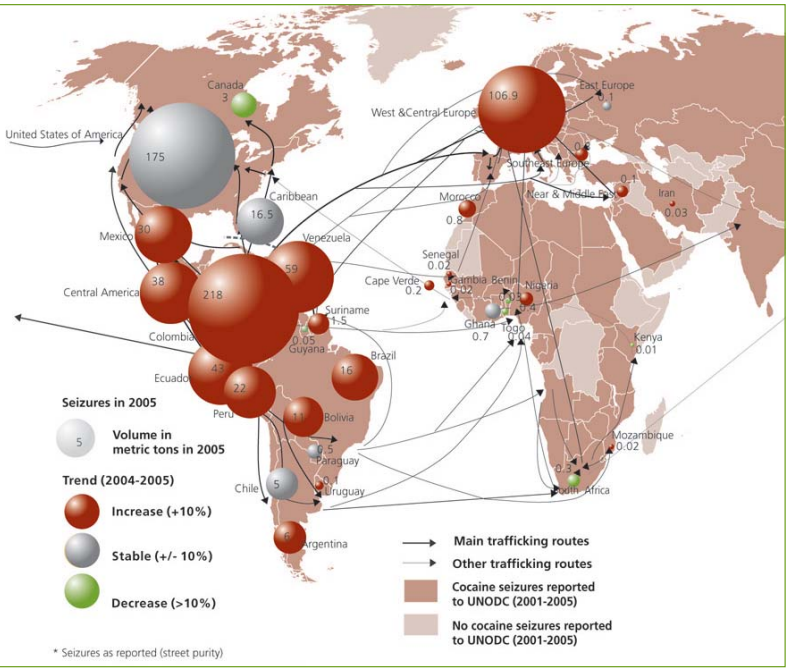
The USA remains the world's largest cocaine consumer, and some 88 per cent of the cocaine destined for the USA transits the Central America/Mexico corridor, about 50 per cent along the Pacific and 38 per cent along the Caribbean coast of Central America. Most of the cocaine flow today is maritime and given the cost and complexity of trafficking on the high seas, this fact alone suggests high levels of organization.

The largest cocaine seizures, as reflected in the UNODC Individual Drug Seizure database, involve multiple tons of the drug and are worth tens or even hundreds of millions of dollars. Such shipments are clearly beyond the scope of small networks of individual traffickers. The share of large seizures in national seizure totals highlight the fact that, while smaller scale trafficking does take place, the backbone of the market remains in the hands of more sophisticated operators. For example, in 2004, more than 25 per cent of the cocaine seized in Honduras came from just one maritime seizure, while 42 per cent of that seized in Nicaragua came from two major seizures on the Atlantic Coast.

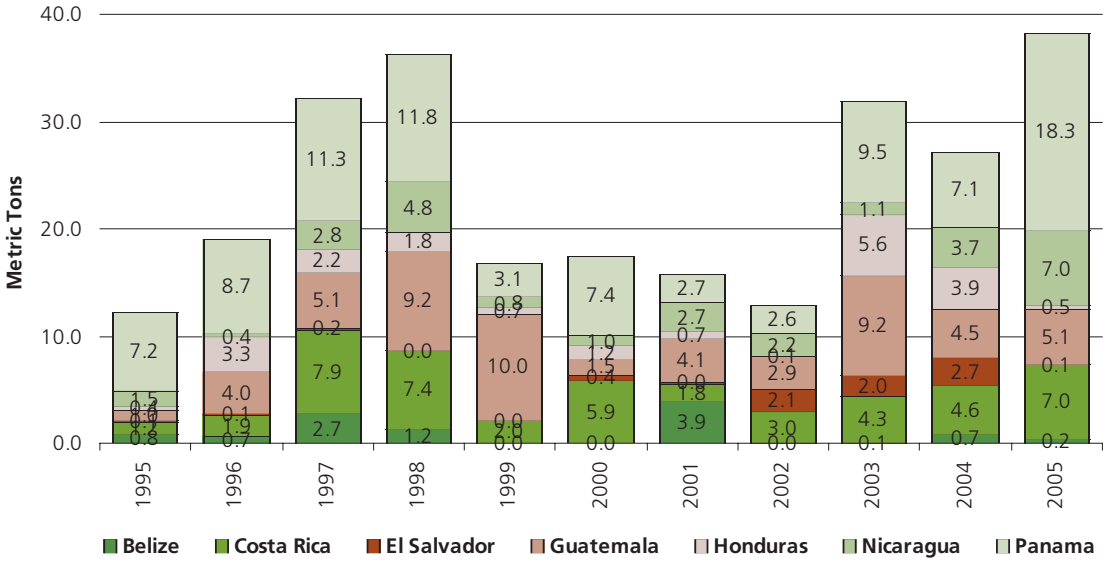
The presence of large loads can be inferred from the volatility of national seizure totals even where individual seizure details are not available. For example, El Salvador seized 32 kg in 2001 before increasing seizure totals to two or three tons annually between 2002 and 2004. In 2005, the country seized only 32 kg. It is unlikely that either the real flows of cocaine through the country or the enforcement efforts made to interdict drugs varied so greatly from year to year, so seizure totals likely reflect the presence or absence of a small number of large seizures.

Trafficking in cocaine, 2005

(countries reporting seizures* of more than 10 kg)

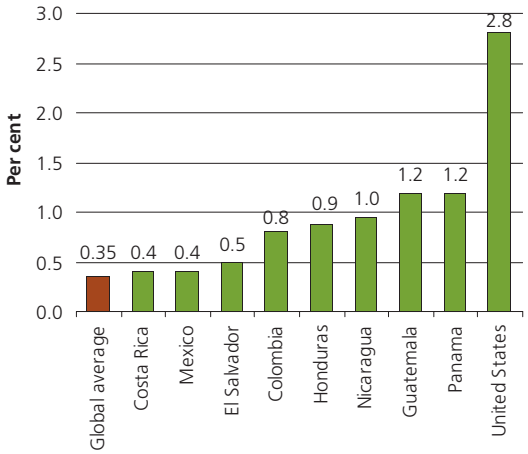


Tons of cocaine seized in Central American countries (rounded)



Since drug trafficking organizations would ideally like to deliver all the drugs produced to their highest value destinations, "spillage" of cocaine into the lower value markets of transit countries represents a kind of inefficiency, often associated with diffuse networks of body couriers who are paid in kind rather than cash. Relatively low drug use levels among transit countries suggest that drug flows through this region remain highly organized.

Share of adults using cocaine in the last year (age 15-64)

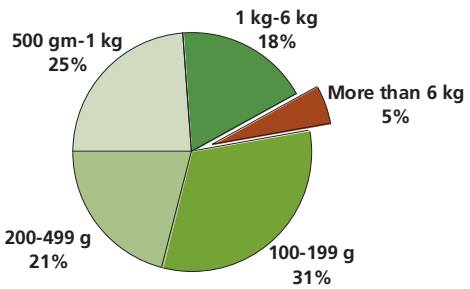


Finally, federal arrest figures in the USA show that the cocaine trafficking is dominated by syndicates of two nationalities: Mexican and Colombian. While this indicates less centralisation than would be the case if the drug producers controlled the entire supply chain, it demonstrates that the drugs are not simply percolating northward, exchanging hands multiple times. Arrest figures suggest that there is very little involvement within the USA of transit country (Central American) nationals.

Heroin via Central Asia to the Russian Federation

In contrast, trafficking through Central Asia appears to be relatively disorganized. Estimates suggest a small share of heroin bound for Russia is seized (perhaps 10%), leaving open the possibility that large shipments are occurring under cover of corruption. Most of the seizures that are made, however, are very small with 95 per cent totalling less than six kg. This amount can be purchased in Afghanistan for about US$10,000, well within the reach of smaller syndicates.

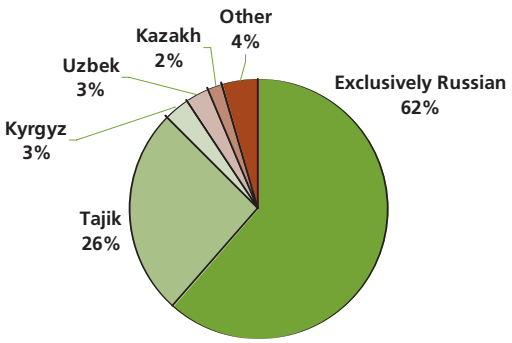
Breakdown of quantities of heroin seized in 1870 large (100 g+) seizures in the Russian Federation, 2004-2005



It would appear that Afghans are involved in bringing the drug out of Afghanistan. From there, the heroin may change hands to Kyrgyz or Kazakh nationals until reaching Kazakhstan, and thereafter Kazakh or Russian groups transport it to Russia. It would appear that Kyrgyz and Kazakh nationals are reliant on the Tajik and Uzbek groups to provide the drugs for further trafficking. In general, transport through the transit zone often appears to be controlled by the nationals of the transit zone, with border crossings involving groups of both states.

Few Tajik nationals are arrested in Kazakhstan for drug trafficking but a large share of major seizures in Russia involve Tajik nationals. Of 954 heroin seizures of over 100 grams reported to the UNODC between 1999 and 2004 in which the nationalities of the traffickers were specified, 252 involved Tajik nationals (26%), operating either alone or in concert with traffickers of other nationalities. However, while Tajik groups are important in both cross-border operations with Afghanistan and trafficking within Russia, the small numbers arrested in Kazakhstan leave open the possibility that they do not control the heroin during the intermediate trafficking period.

Non-Russian involvement in large Russian heroin seizures, 1999-2004



Finally, drug use rates have been growing rapidly in Central Asia, suggesting that the smuggling is indeed being conducted by a large number of small couriers, with the possibility that the heroin is sold-on multiple times before reaching its final destination.

The two examples discussed above highlight two extremes of a spectrum: on the one hand, the highly organized groups active in shipping multi-million dollar consignments of cocaine from Colombia to the USA; on the other, the many, uncoordinated players who, responding to market incentives, move heroin from Afghanistan to Russia. It appears that the two regions are vaguely converging, however - cocaine trafficking has become less organized since the days of the Medellin and Cali Cartels, and the heroin trade in Afghanistan, is growing increasingly and is getting more organized.

1. TRENDS IN THE WORLD DRUG MARKETS

1.1 Overview

1.1.1 Evolution of the World Drug Problem

Continued containment of the drug problem

The global drug problem is being contained. The production and consumption of cannabis, cocaine, amphetamines and ecstasy have stabilized at the global level – with one exception. The exception is the continuing expansion of opium production in Afghanistan. This expansion continues to pose a threat - to the security of the country and to the global containment of opiates abuse. Even in Afghanistan, however, the large scale production of opium is concentrated and expanding in a few southern provinces where the authority of the central government is currently limited and insurgents continue to exploit the profits of the opium trade.

On the whole, most indications point to a levelling of growth in all of the main illegal drug markets. This is good news and may indicate an important juncture in long term drug control. A stable and contained problem is easier to address than one which is expanding chaotically, provided it is seen as an opportunity for renewed commitment rather than an excuse to decrease vigilance.

Most indications are, however, that Member States do have the will to re-commit to drug control. Although it is outside of the scope of this Report to assess policy, the estimates and trends which are provided in the following pages contain several examples of progress forged on the back of international collaboration. The extent of international collaboration, the sharing of intelligence, knowledge and experience, as well as the conviction that the global drug problem must be tackled on the basis of a 'shared responsibility' seem to be growing and bearing fruit.

Following stabilization in 2005, opium production increased in 2006 ...

The total area under opium cultivation was 201,000 hectares in 2006. This is clearly higher than a year earlier (+33%) though still below the level in 1998 (238,000 ha) and some 29 per cent lower than at the peak in 1991 (282,000 ha). Given higher opium yields in Afghanistan than in South-East Asia, global opium production is, however, higher than in the 1990s.

Following a small decline of global opium production in 2005 (-5%), global opium production increased again strongly in 2006 (+43%) to reach 6610 mt, basically reflecting the massive expansion of opium production in Afghanistan (+49%). Afghanistan accounted for 92 per cent of global illicit opium production in 2006. As a result global heroin production is estimated to have increased to 606 mt in 2006. The bad news from Afghanistan also overshadows the good news from South East Asia. Opium production in the Golden Triangle (mainly Myanmar and Laos) declined by 77 per cent between 1998 and 2006 and by 84 per cent since the peak in 1991.

… while cocaine production remained stable

If only the area under coca cultivation is considered, a small decline by 2 per cent to 157,000 hectares was reported for the year 2006. As compared to the year 2000, the area under coca cultivation in the Andean region declined by 29 per cent; in Colombia, it fell by as much as 52 per cent. This progress was, however, not translated into a decline of global cocaine production, due to improved yields and production techniques. Global cocaine production is estimated to have remained basically unchanged in 2006 as compared to a year earlier or two years earlier. Following a revision of yield estimates, global production is now estimated at 984 mt. A decline in Colombia (-5 %) was compensated by increases reported from Bolivia (+18%) and Peru (+8%).

Cannabis production declined in 2005 ...

Estimates for both cannabis herb and cannabis resin showed a decline for the year 2005. This decline follows several years of sustained growth. Global cannabis herb production is now estimated at 42,000 mt, down from 45,000 mt in 2004. Global cannabis resin production

declined from 7,500 mt in 2004 to 6,600 mt in 2005, reflecting mainly the decline of cannabis resin production in Morocco.

... and ATS production stabilized

Global production of amphetamine-type stimulants seems to have stabilized at around 480 mt in 2005, slightly down from 500 mt in 2000. There has been a decline in ecstasy production (from 126 mt in 2004 to 113 mt in 2005), and a small decline in methamphetamine production (from 291 to 278 mt) which was offset by an increase in global amphetamine production (from 63 to 88 mt).

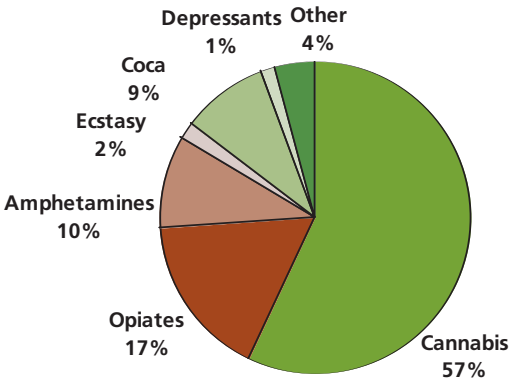
Member States reported 1.5 million drug seizure cases to UNODC

Member States reported 1.5 million drug seizure cases to UNODC for the year 2005, 21 per cent more than a year earlier. Some of the increase was due to improved reporting. One hundred and twelve countries provided detailed statistics on seizure cases in 2005, up from 95 countries in 2004. If only the data of those countries that reported in both 2004 and 2005 is considered, the increase amounts to 10 percent.

More than half (57 %) of all seizure cases involved cannabis (herb, resin, oil, plants and seeds). Opiates (opium, morphine, heroin, synthetic opiates and poppy seeds), accounted for 17 per cent, with heroin alone accounting for 14 per cent of the total. This is followed by seizures of the amphetamine-type stimulants (12 %). About half of these seizures (or 5.5 % of the total) is accounted for by methamphetamine, followed by amphetamine (2.5 %) and ecstasy (2%); the rest (2 %) includes 'Captagon' tablets (Near East) and 'Maxiton Forte' (Egypt), 'ephedrone' (methcathinone) and various undefined amphetamines. Coca products account for 9 percent of global seizure cases; the bulk of coca related seizure cases concern cocaine (8 % of total).

Depressants account for 1 per cent of global seizure cases and other drugs for 4 per cent. This includes substances such as methaqualone, khat, various synthetic narcotics, LSD, ketamine, various non-specified psychotropic substances, and inhalants. Some of these substances (such as khat, ketamine and some of the psychotropic substances) are not under international control, but are under national control in several Member States.

Fig. 1: Breakdown of seizure cases in 2005 by substance (N = 1.51 million)



Source: UNODC, Government reports.

Largest quantities of drugs seized are cannabis, cocaine and opiates

Information on the quantities of drugs seized was provided by 118 countries for the year 2005 in reply to UNODC's Annual Reports Questionnaire. Supplementing ARQ data with information obtained from other sources[1], UNODC has compiled data and information from 165 countries and territories. This forms the basis for the analysis which follows.

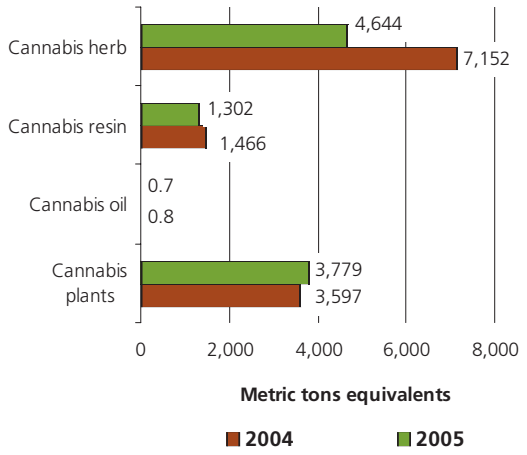
The largest seizures worldwide are for cannabis (herb and then resin), followed by cocaine, the opiates and ATS. All cannabis related seizures amounted to more than 9,700 mt in 2005, including 5,947 mt for cannabis end products (herb, resin and oil). Cocaine seizures amounted to 752 mt, opiate seizures, expressed in heroin equivalents, amounted to 125 mt and ATS seizures (methamphetamine, amphetamine, non-defined amphetamines and ecstasy) amounted to 43 mt.

Increases in 2005 were reported for coca leaf, cocaine, the amphetamines as well as GHB and LSD. As global cocaine production remained unchanged, the strong increase in cocaine seizures is likely to have been the exclusive result of effective and successful law enforcement. Though amphetamines seizures increased in 2005 they are still below the peak levels of 2000 and 2001. Global trafficking in amphetamines over the last five years has remained basically stable.

Opiates seizures as a whole remained stable in 2005 –

[1] Government reports, HONLEA reports, UNODC Field Offices, Drug Abuse Information Network for Asia and the Pacific (DAINAP), ICPO/Interpol, World Customs Organisation (WCO), CICAD, EMCDDA, United States Department of State, I*nternational Narcotics Control Strategy Report*, etc.

Fig. 2: Global cannabis seizures, 2004-2005



Source: UNODC, Government reports.

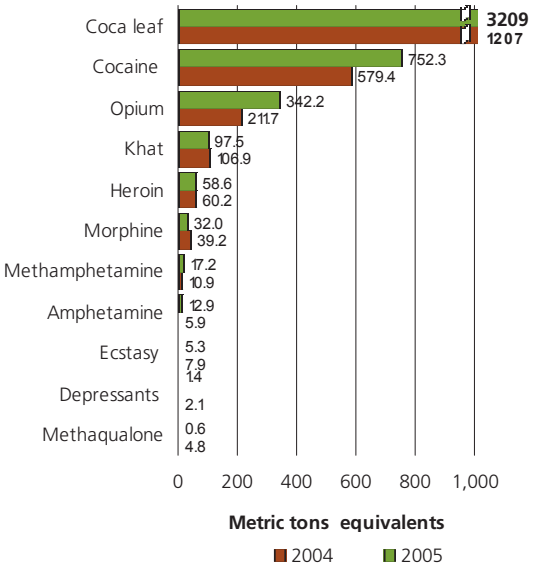
reflecting stable global opium production in that year. Rising seizures of opium offset declines in heroin and morphine seizures. For 2006, however, preliminary data indicate a strong increase in opiates seizures, in line with growing levels of opium production in Afghanistan.

In 2005, global seizures of cannabis herb, resin and oil declined. The decline in cannabis herb seizures seems to be linked to intensified eradication efforts in a number of countries across the globe. The decline in cannabis resin seizures can be linked to the decline of cannabis resin production in Morocco.

Drug seizures in unit terms decline in 2005

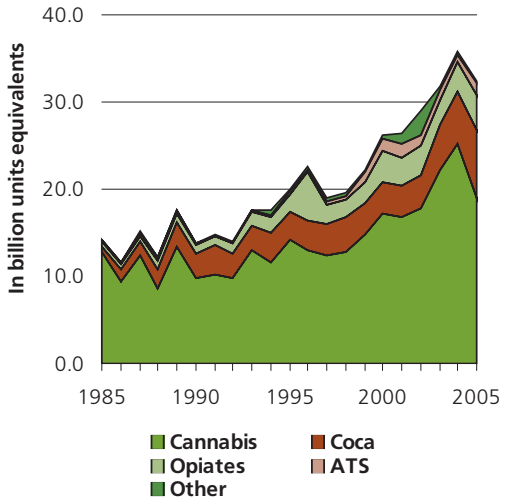
As the quantities of drugs seized are not directly comparable, it is difficult to draw general conclusions on overall drug trafficking patterns from them. Since the ratio of weight to psychoactive effects varies greatly from one drug to another (the use of one gram of heroin is not equivalent to the use of one gram of cannabis herb), the comparability of the data is improved if the weight of a seizure is converted into typical consumption units, or doses, taken by drug users. Typical doses tend, however, to vary across countries (and sometime across regions within the same country), across substances aggregated under one drug category (e.g. commercial cannabis herb and high-grade cannabis herb), across user groups and across time. There are no conversion rates which take all of these factors into account. Comparisons made here are based on global conversion rates, of milligrams per dose,[2] found in scientific literature or used among law enforcement agencies as basic rules of thumb. The resulting estimates should be interpreted with some caution.

Fig. 3: Global drug seizures, excluding cannabis, 2004-2005



Source: UNODC, Government reports.

Fig. 4: Global drug seizures in 'unit equivalents', 2000-2005



Source: UNODC, Government reports.

[2] For the purposes of this calculation, the following typical consumption units (at street purity) were assumed: cannabis herb: 0.5 grams per joint; cannabis resin: 0.135 grams per joint; cocaine: 0.1 grams per line; ecstasy: 0.1 grams per pill, heroin: 0.03 grams per dose; amphetamines: 0.03 grams per pill; LSD: 0.00005 grams (50 micrograms).

Fig. 5: Trends in the world seizures, 1995 - 2005

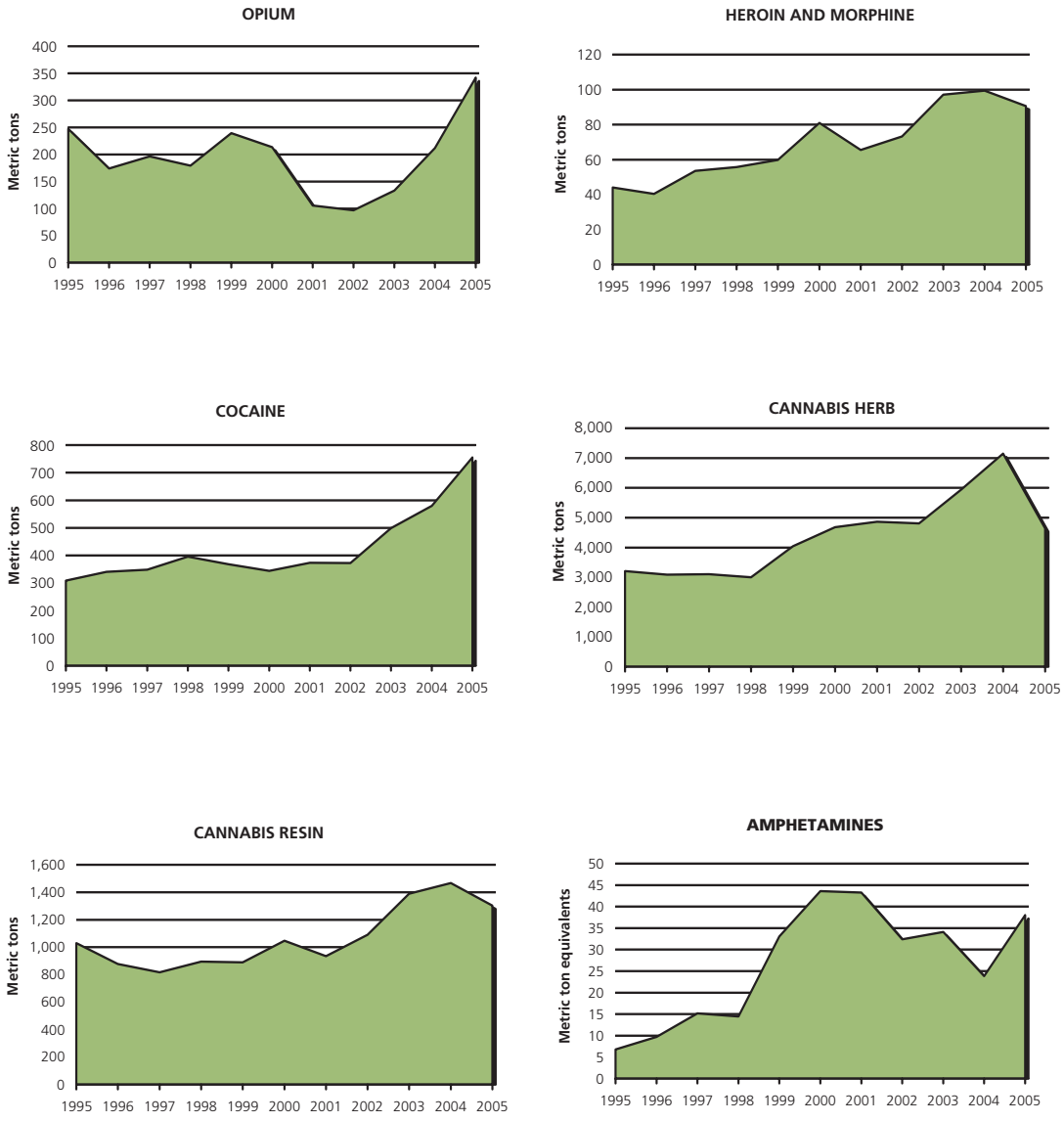
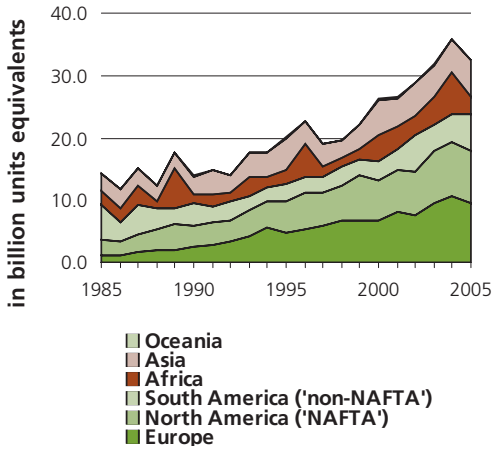
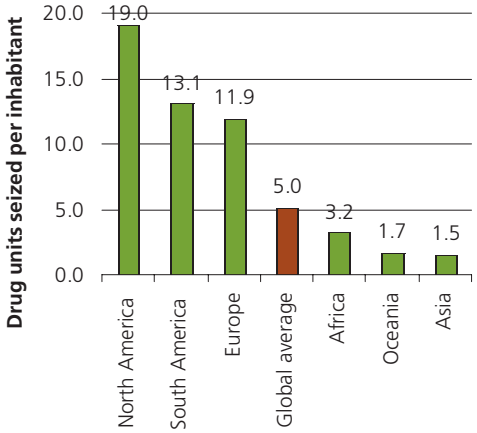


Fig. 6: Regional breakdown of seizures 'in unit equivalents', 1985 -2005 (N = 32.5 billion units)



Source: UNODC, Government reports.

Fig. 8: Drug units/doses seized per inhabitant in 2005

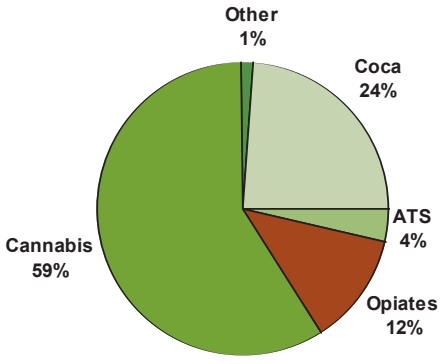


Source: UNODC, Government reports.

Based on such calculations, global seizures were equivalent to 32.5 billion units in 2005, down from 35.8 billion units a year earlier (-9%). As the number of drug seizure cases increased in 2005, the decline of seizures in unit equivalents cannot be attributed to reduced law enforcement activity. It most likely reflects the first signs of stabilization in global drug trafficking flows parallel to the stabilization in global drug production and drug consumption.

In units terms, more than half of all seizures (59 %) are cannabis, followed by coca related substances (24 %), opiates (12 %) and amphetamine-type stimulants (4%). While cannabis leads the table, irrespective of the measurement used, it may be interesting to note that in terms of reported drug seizure cases, cocaine ranked fourth, behind the opiates and behind the ATS. This reflects the fact that, while there are many multi-ton seizures of cocaine every year, other drugs are usually trafficked in far smaller quantities.

Fig. 7: Regional breakdown of drug seizures in 'unit equivalents', 1985-2005



Source: UNODC, Government reports.

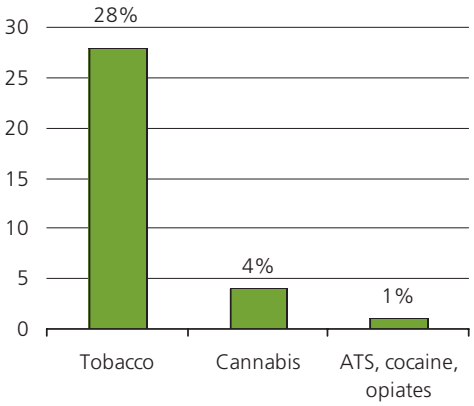
A regional breakdown shows that 44 per cent of all drugs, expressed in unit equivalents, were seized in the Americas, 29 per cent in Europe, 18 per cent in Asia, 9 per cent in Africa and 0.2 per cent in the Oceania region. Seizures declined in 2005 in Africa, in the Oceania region, in Europe and in North America but increased in South America and in Asia.

On a per capita basis, drug trafficking is most widespread in North America, reflecting higher abuse levels and/or the fact that law enforcement in North America is the most active in fighting drug trafficking. The largest amounts of drugs per inhabitant are seized in North America (19 doses per inhabitant), followed by South America (13 doses) and Europe (11 doses). The global average is 5 doses per inhabitant per year. Africa, Oceania and Asia are all below the global average. Within Asia, however, data differ among the various subregions. For the Near & Middle East / South-West Asia region, seizures amount to 11 doses per inhabitant, which is almost the same level as reported from Europe.

Overall stabilization in global drug use

The estimated level of drug use in the world has remained more or less unchanged for the third year in a row. Approximately 200 million people or 5 per cent of the world's population aged between 15 and 64 years have used drugs at least once in the previous 12 months.

Fig. 9: Use of illicit drugs compared to the use of tobacco (in % of world population age 15-64)



Source: UNODC, WHO

This continues to be a far lower level than tobacco use (28 %). UNODC's estimate of the global number of problem drug users also remains unchanged at around 25 million people or 0.6% of the global population age 15-64.

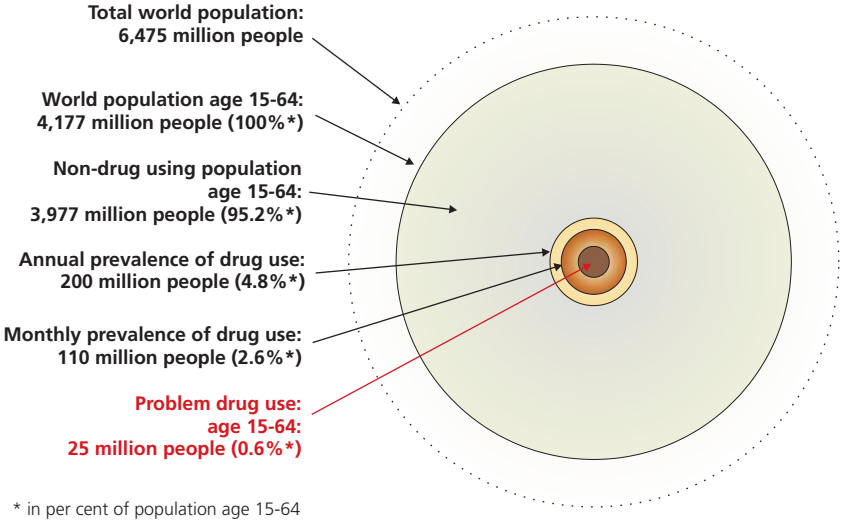
With the exception of a small increase in cocaine use (based on prevalence estimates), use of all illicit drugs was either stable or declined slightly in 2005/6. The increases in cannabis and ecstasy use which were recorded in 2004/5 were not carried over into the 2005/6 period.

Consumed by almost 4 per cent of the population or close to 160 million persons, cannabis continues to account for the vast majority of illegal drug use. Global cannabis use estimates are slightly lower than last year's estimates, due to ongoing declines in North America and – for the first time - some declines in the largest cannabis markets of Western Europe. Cannabis use in the Oceana region also continued to decline. In addition, a number of new household surveys found lower prevalence rates than UNODC had previously estimated for the countries concerned. Growth in cannabis use occurred in Africa, several parts of South America, some parts of Asia (South-West Asia, Central Asia and South-Asia) and parts of Eastern and South-eastern Europe. Although it is too early to speak of general decline, signs of a stabilization of cannabis use at the global level are apparent.

Amphetamine-type stimulants (ATS), including amphetamines, methamphetamine and ecstasy, remain the second most widely consumed group of substances. Over the 2005/6 period 25 million people are estimated to have used amphetamines (including methamphetamine) at least once in the previous 12 months, about the same as a year earlier. An estimated 9 million people used ecstasy over the 2005/6 period, down from 10 million in 2004/5. Declines in ecstasy use occurred primarily in North America.

The number of opiates users remained stable at 2004/5 levels. As in that period, 16 million persons or 0.4 per cent of the global population aged 15 to 64 consumed

Fig. 10: Illegal drug use at the global level (2005/2006)



* in per cent of population age 15-64

Table 1: Extent of drug use (annual prevalence*) estimates 2005/6 (or latest year available)

	Cannabis	Amphetamine-type stimulants		Cocaine	Opiates	of which heroin
		Amphetamines	Ecstasy			
(million people)	158.8	24.9	8.6	14.3	15.6	11.1
in % of global population age 15-64	3.8%	0.6%	0.2%	0.3%	0.4%	0.3%

Annual prevalence is a measure of the number/percentage of people who have consumed an illicit drug at least once in the 12 month-period preceding the assessment.

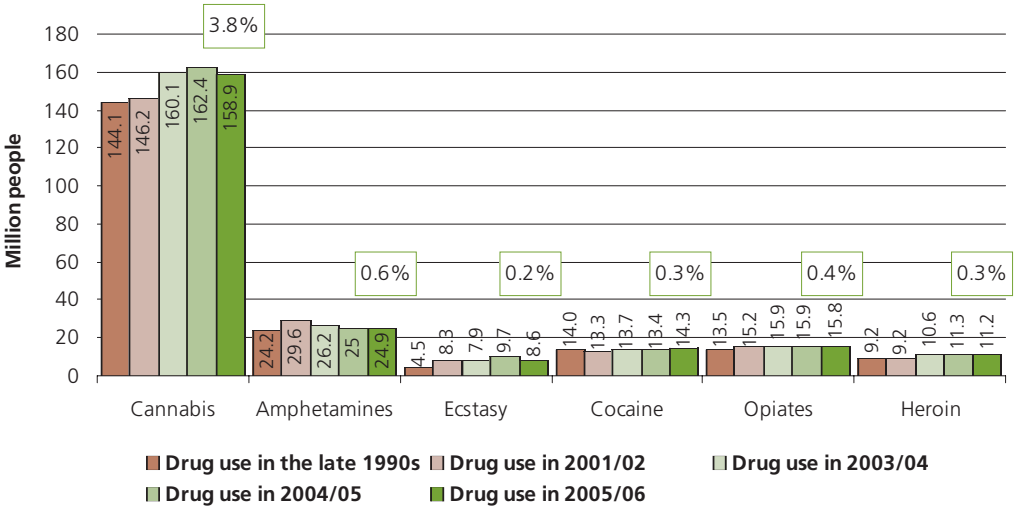
opiates. Out of these 16 million persons, 11 million or 0.3 per cent of the population abuse heroin. Overall, consumption declined or stabilized in established markets, including those of Western Europe and North America, but increased in countries in the vicinity of Afghanistan as well as in new markets, such as Africa. In most of the countries of East and South-East Asia opiate abuse stabilized or declined.

UNODC's estimate of the global level of cocaine use increased slightly to 14 million persons or 0.3 per cent of the global population. Continued increases in South America, Africa and Europe were partially offset by decreases reported from North America. UNODC also compiles data based on use trends as perceived by experts. Results from these data are not always identical to actual reported information.[3] Trend estimates provided by Member States to UNODC differ slightly, and indicate that global cocaine use declined slightly in 2005.

Treatment demand continues to be highest in North America

The demand for drug abuse treatment is an important indicator for assessing the world drug situation because it reveals the drugs which place the largest burden on national health systems. Member States reported a total of 4.5 million people under treatment for drug abuse to UNODC. Of the 25 million people (0.6% of the world's population age 15-65) estimated to be heavily

Fig. 11: UNODC estimates of illicit drug use, late 1990s to 2005/2006



Sources: UNODC, Government reports, EMCDDA, CICAD, local studies.

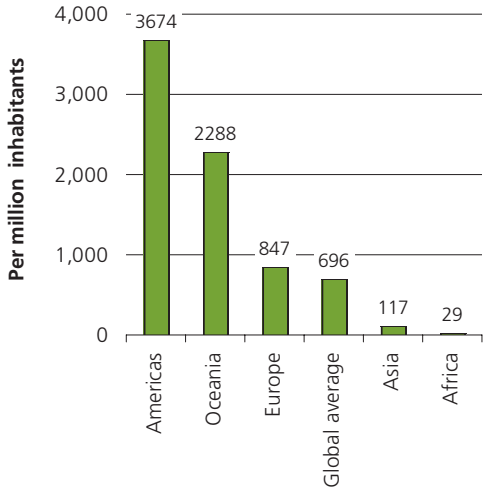
[3] A detailed explanation of this can be found in the Methodology section of this Report.

drug dependent, about 1 out of 5 are treated for their problem.

The number of persons under treatment is higher than was reported in last year's *World Drug Report* (3.7 million). Most of the increase is due to better reporting (notably from countries in South America). The actual world total may be higher given the large number of countries which do not have comprehensive registry systems.

Based on reported data, some 700 out of every million persons were treated for drug abuse in 2005. The highest numbers of drug treatment (per million inhabitants) are found in the Americas (3,670), the Oceania region (2,290), and Europe (850). Within the Americas, treatment levels in North America are the highest (5,050), and within Europe treatment is far more frequent in Western Europe (1,400) than in the rest of the continent (360). Treatment levels in Asia (120) and in Africa (30) are low. In recent years much of the progress made at the global level in stabilizing or reducing drug consumption occurred in North America, the Oceania region and Western Europe, where more treatment capacity was created.

Fig. 12: Drug treatment per million inhabitants in 2005 (N = 4.5 million)



Source: UNODC, Government reports.

Treatment demand for opiates abuse continues to be highest in Asia and in Europe

In Asia and Europe – home to more than 70 per cent of the world's total population – opiates account for the bulk of drug-related treatment demand (62% and 58%, respectively in 2005.)[4] Within Europe, treatment demand for opiates abuse is higher in Eastern Europe (61%) and lower in Western Europe (55%). The proportion of opiates-related treatment in overall treatment demand has been declining in both regions since the late 1990s[5]. In Europe this reflects increasing abuse of cannabis, cocaine and ATS; in Asia increasing abuse of ATS and some increase in cannabis. The decline in Asia is also linked to the decline of opium production in South East Asia. In Oceania, the proportion of treatment for opiates addiction in overall treatment demand is declining. This began after the Australian heroin shortage of 2001. The only exception to this downward trend is Africa. Heroin related treatment increased from 8 per cent of treatment demand in the late 1990s to 15 per cent in 2005. Most of this rise was reported from countries in eastern and southern Africa.

Treatment of cocaine abuse remains highest in the Americas – but the strongest increase is recorded in Europe

In South America, cocaine continues to account for most of the drug abuse related treatment demand (48%) though the proportion has declined since the late 1990s (from 65%). High proportions of cocaine related treatment demand are also encountered in North America (40%). In the USA, cocaine related treatment demand has shown a marked decline over the last decade. Because this was not the case for Canada or Mexico, the unweighted average for North America declined only slightly. The strongest increase in cocaine related treatment demand was observed in Europe (rising from 3 % to 8 %). Data also show that cocaine is still mainly a problem of Western Europe, where it now accounts for 13 per cent of treatment demand. In Eastern Europe the proportion is 2 per cent and in Africa 10 per cent. In Asia, in contrast, cocaine related treatment is still negligible (0.3%).

[4] While some countries have a comprehensive treatment registry system, others only provide data from a few clinics. Simply adding up such numbers of people treated for specific substances would give a strong bias in favour of the countries which have nationwide monitoring systems. In order to overcome this problem, the proportions at the country level were first calculated and based on these results, the (unweighted) averages of the respective region were derived. The data shown are those reported for the year 2005. In case no data for a specific country were reported for 2005, data obtained in previous years were used instead.

[5] The subsequent comparisons are based on treatment data statistics compiled and published in the *World Drug Report, 2000*.

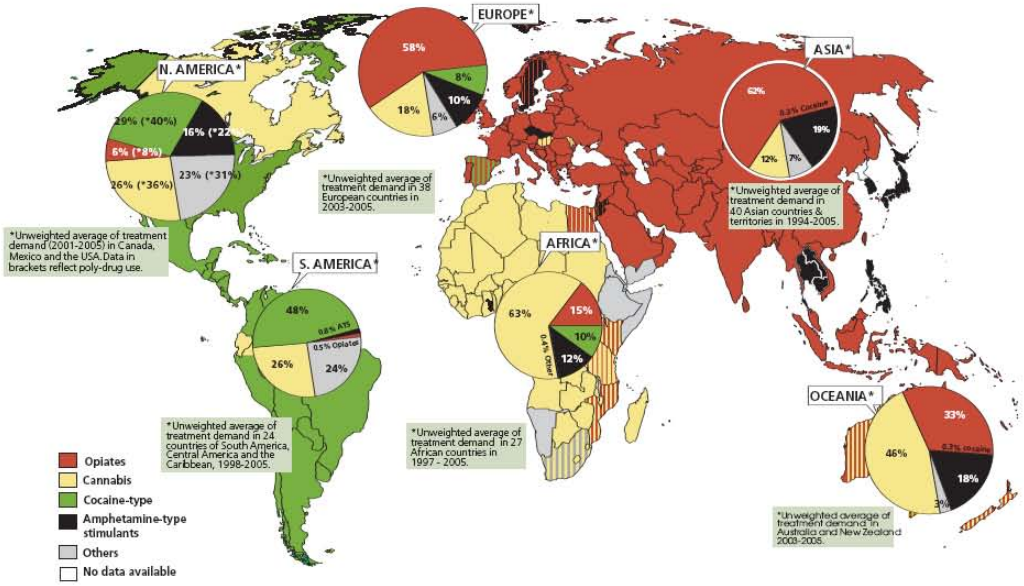
Cannabis related treatment demand remains highest in Africa but increased globally

Most of the demand for drug related treatment in Africa is related to cannabis abuse (63 % in 2005). Treatment demand for cannabis has increased globally over the last decade. It increased in the Oceania region (from 13 % to 46 %), in North America (from 23 % to 36 %), in South America (from 15 % to 26 %), in Europe (from 10 % to 18 %) and in Asia (from 9 % to 12 %). Some of the strong increases in the Oceania region, in North America and in Europe are due to the availability of cannabis with far higher levels of THC[6] than in the past. Rising levels of THC are particularly noticed among developed countries.

Treatment demand for ATS is highest in East & South-East Asia, Oceania and in North America

The proportion of ATS abuse related treatment is highest in Asia (19%), notably in East & South-East Asia (unweighted average of 37 % in 2005), the Oceania region (18 %) and North America (16%). Slightly lower are the proportions reported from Africa (12%) and Europe (10%). Over the last decade ATS related treatment demand increased across all regions. As compared to the figures published in last year's *World Drug Report*, ATS related treatment demand continued growing in North America, Asia and in Africa, but stabilized in Europe and declined slightly in the Oceania region. Some of the current growth in ATS related treatment is a consequence of previous years' ATS abuse. Data for the USA, for instance, show a clear reduction in ATS prevalence rates, while ATS related treatment continues growing.

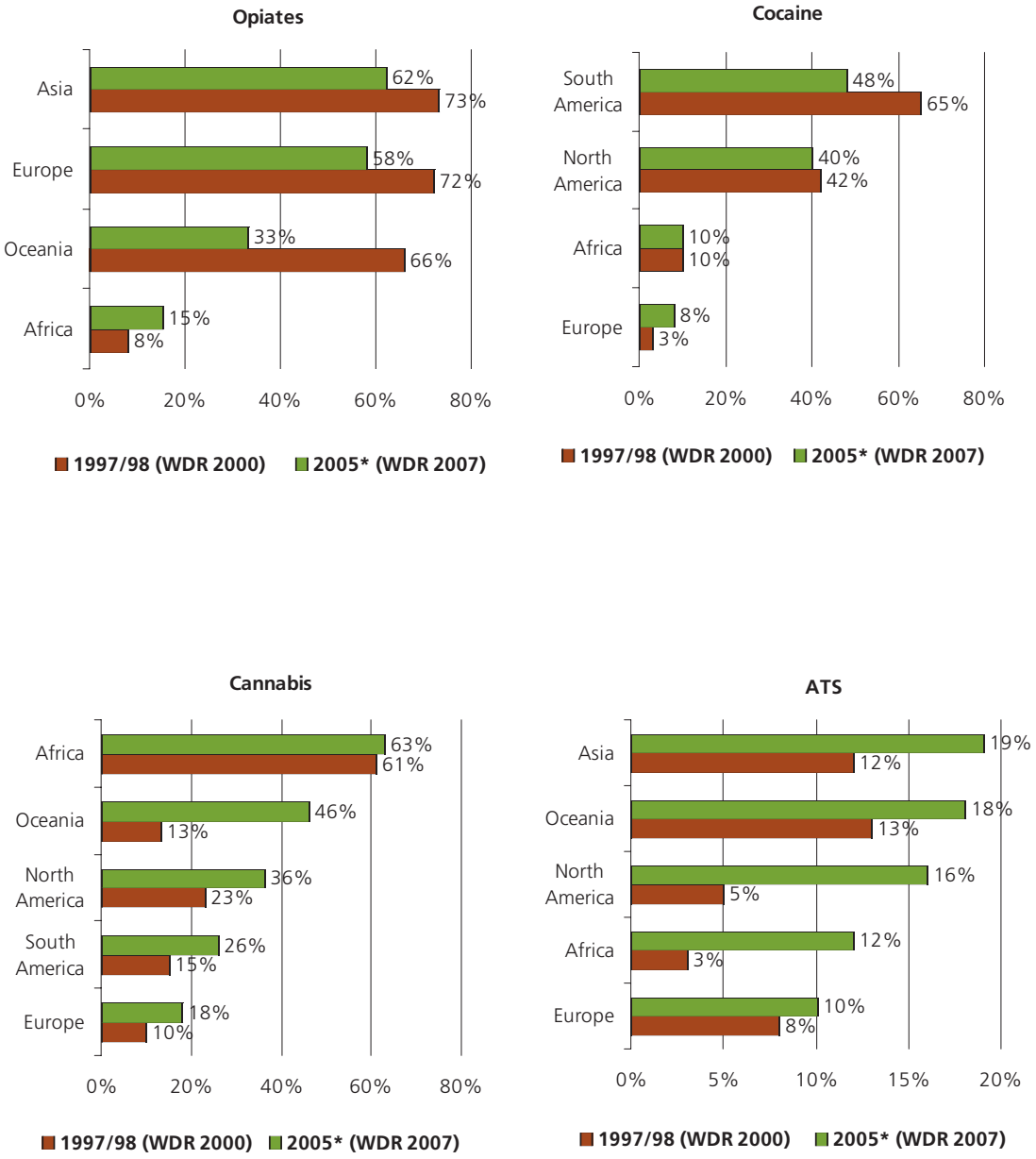
Map 1: Main problem drugs (as reflected in treatment demand in 2005 (or latest year available)



Source: UNODC, Government reports

[6] Tetrahydrocannabinol is the main psychoactive substance in cannabis

Fig. 13: Proportion of people in drug related treatment for specific substances: 1997/98 and 2005*



* 2005 or latest year available; calculated as the unweighted average of countries reporting in a specific region; information based on reports from 40 countries in Asia; 38 countries in Europe, 27 countries in Africa; 24 countries in South America, Central America and the Caribbean, 3 countries in North America and 2 countries in the Oceania region.

Sources: UNODC, Government reports, EMCDDA, CICAD

1.1.2 Outlook for world drug markets

Consolidating achievements

While there has been a long term geographical contraction of cultivation and production centers for opium/opiates and coca/cocaine, there has been a dispersion of production locations for cannabis and ATS. While the world has witnessed overall stabilization in the established consumer markets for each of the four illicit drugs, there are also indications of growing levels of abuse in some regions. It will be important to carefully monitor the markets to see whether this stabilization trend is being sustained. The goal, of course, is to move from containment to overall reduction. Understanding some of the threats and enabling conditions in relation to this goal will be critical to this achievement.

Development of new trafficking routes

The development of new trafficking routes is something which should be anticipated and monitored carefully. Illicit drug organizations, independent of their level of organization and sophistication, are adaptive and creative when it comes to distribution. Over the course of the last few years new routes have appeared in some regions. In particular Africa is increasingly being exploited by drug traffickers and this trend can be expected to continue. The trafficking routes from Afghanistan via Pakistan and Central Asia to China (in order to compensate for the lower production levels in Myanmar) are another potential growth area that will need more careful monitoring.

Development of new consumer markets

Within the context of overall stabilization of demand, incipient consumer markets can probably be identified for each of the four drug markets. In the case of opiates they seem to be forming along trafficking routes and in African countries, in the case of amphetamines and ATS, there are indications of some emerging markets in South-East Europe and the Near and Middle East, and cocaine continues to find new markets in South America, Europe and Africa. There have also been reports of the emergence of cocaine markets in some of the Asian countries. Opiate use is increasing in Africa, notably in countries of eastern Africa and in South Africa and cocaine use is increasing in countries of western and southern Africa.

Opium/heroin market

Developments in Afghanistan will continue to determine the levels of global opium production. With no indication that production will rise significantly in any of the other opium producing countries, where supply has been contracting, Afghanistan's share in global opium production could rise again this year. Early indications suggest there could be another increase in opium production in that country in 2007.

New trafficking routes are likely to develop or come to light. Routes into and through China and India are examples of this. Increases in abuse in countries bordering Afghanistan and along major trafficking routes are likely, while demand can be expected to remain stable in established markets.

Coca/cocaine market

Production levels are likely to remain stable with Colombia retaining its share of overall production. Developments in Bolivia will continue to influence the market. In the absence of increased prevention efforts, the current upward trend in use in Europe could continue.

Cannabis

The insidiousness of this market will not change in the near term. In the mid-term, the production of resin could continue declining, given the ongoing efforts made by Morocco. The production of cannabis herb may well increase again, after the decline in 2005. Growth in hydroponic production, and thus growth in production in the developed world, is likely to continue. Despite the overall stabilization of use in 2005/06, it is too soon to predict an end to growth in the consumption of cannabis.

ATS

Although ATS production is flexible in the sense that technology is simple and infrastructure can be temporary, it is rather inflexible when it comes to the chemical inputs required to produce the final product. As long as the controls on these are effective and can be sustained their lack of availability will hamper global pro-

duction. In 2005/2006 these controls increased, with impressive results in several regions. If this is sustained into the next few years growth of supply in this market could indeed be suppressed. On the other hand, one can also observe some circumvention strategies, as the necessary precursor chemicals are increasingly being produced out of chemicals that remain readily available on the market.

Although amphetamine, methamphetamine and ecstasy are likely to continue to find new consumers it is likely that, overall, the market will remain stable. Ecstasy use could continue declining in established, developed world markets, and increasing in markets in developing countries.

Policy momentum at the national and international level

If one takes the Hague Opium Convention of 1912 as a starting point, the struggle against the drug problem has been long indeed. When it has been effective, and successes have been enumerated in previous editions of this Report, one of the pillars of success has been sustained political commitment and resource allocation at the national and international level.

Trends revealed in the pages of this Report indicate that the current stabilization could be an important juncture for drug control. Significant stabilizations have occurred and have been sustained in the short term. Continued commitment and momentum at the international level will be one element in continuing these trends and possibly effecting sustainable, long term contraction in each of these markets.

In this context assistance, approaches and policy need to be appropriately holistic and sequenced. In 1998, at the General Assembly Special Session on Drugs (UNGASS), Illicit Trafficking, there was a general consensus among the international community that the drug problem could only be effectively addressed holistically. The first step to achieving this was to ensure that interventions were made both on the supply and the demand sides of the problem. Almost ten years on, it is apparent that this central tenet now forms the basis of much drug policy. Similarly, it has been increasingly recognised that drug policy and drug control interventions must be holistic in nature. In order to address the problem of supply in Afghanistan, for example, demand in Europe and the neighbouring countries of Afghanistan needs to be controlled, as does the growing problem of use in Afghanistan itself, and the development of new trafficking routes through Central Asia – which, in turn, could address the increase in IDU related HIV infection rates in the region. Each of those problems, also need to be addressed in their proper context. In some cases this will mean ensuring that the drug problem is approached in the broader human security and development framework. This type of approach is more complex, and will need international coordination, but should yield sustainable benefits.

As the international community moves increasingly toward this type of approach one of the main elements of its success is going to be ensuring that interventions are properly sequenced. To ensure efficacy, the basis of this sequencing must be built on knowledge of drug market dynamics. As this knowledge advances, strategy can become more sophisticated. At what stage in a drug epidemic, for example, should treatment efforts be increased, or when would it be most effective to aim for a sharp reduction in supply? None of these issues is straight forward. However, over the last ten years the steady accumulation of knowledge on the drug situation has led to the advancement of our understanding of drug market dynamics. If momentum on this continues, strategic policy of this nature could become an effective tool for reducing the drug problem rather than merely containing it.

1.2 Opium / Heroin Market

1.2.1 Summary trend overview

Record levels of supply of illicit opiates from Afghanistan continue to threaten the stabilisation of demand which has occurred in all of the illicit drug's major consumer markets. With 82 per cent of global opium cultivation now concentrated in Afghanistan the supply side of the market is determined by production in and distribution from this country. This level of supply side concentration is unique amongst the four illicit markets and occurred over the last decade mainly due to sustained success in reducing cultivation in South-East Asia - the area known as the Golden Triangle - where poppy cultivation declined by 87 per cent over the last decade. Between 2005 and 2006, poppy cultivation in South-East Asian declined from 35,000 ha to 24,000 ha. The significance of the contraction in opium cultivation in Myanmar and Laos cannot be underestimated. Although opium poppy cultivation in Afghanistan increased massively in 2006, the global area under illicit poppy cultivation was still 10 per cent lower in 2006 - slightly more than 200,000 ha - than in 2000, and more than 20 per cent lower than in 1996.

Despite successes in the reduction of cultivation and production in the Golden Triangle, the global production of opium has increased by one half since 1998. Afghanistan now accounts for 92 per cent of global illicit opium production, up from 70 per cent in 2000 and 52 per cent a decade earlier. Exacerbating the problem, higher yields in Afghanistan as compared to other opium producing regions, have brought global opium production to a new record high of 6,610 mt in 2006, a 43 per cent increase over 2005. This level of production concentration and the potential for a damaging supply push are two reasons to continue monitoring and understanding opiates trafficking patterns and routes. The global opiate interception rate rose from just 9 per cent in 1990 to 15 per cent in 1995, 21 per cent in 2000 and 26 per cent in 2005 – reflecting the increased efforts made by Member States to curb trafficking in opiates. The strong expansion in seizures meant that the actual amount of opiates available for consumption in 2005 was 5 per cent lower than in 2000 and 8 per cent lower than a decade earlier.

Recently, one of the defining characteristics of this market has been that price behaviour and other indicators were less indicative of supply and demand fluctuations than one would expect. With a surge in supply and stable demand, a price decline would be expected near the source, but opiates prices are not easy to predict, because the global dynamics of this market are not well understood. Despite the 49 per cent increase in production in Afghanistan 2006, opium prices fell by just 17 per cent in country. This could suggest there is significant stock piling, but there is little evidence as to where and how this is occuring.

Afghan opiates supply the markets of neighbouring countries, Europe, the Near and Middle East and Africa. Opiates produced in South-East Asia mainly supply the markets of China and other South-East Asian countries as well as Oceania. Opiates produced in Latin America are mainly destined for the North American market. However, it appears that cross-regional trafficking is gaining in importance. There are indications that a small but increasing proportion of opiates from Afghanistan are being trafficked to North America, either via eastern and western Africa, or via Europe.

Overall, the consumer market has remained encouragingly stable despite important increases in consumption in the countries along major trafficking routes. Opiate consumption is increasing in the countries surrounding Afghanistan: Pakistan, Iran and Central Asia. Abuse is also increasing in some transit and consumer countries, including Russia, India, and countries of eastern, southern and western Africa.

Though the bulk of opiates for the Chinese market continue to originate in Myanmar, there are reports of rising levels of Afghan opiates being trafficked to China, presumably to replace declining production in Myanmar. This supply loss is unlikely to have been completely offset by new Afghan supplies and overall demand in China is heading towards stabilization. In several of the other South-East Asian and Pacific countries, which relied heavily on supplies from the Golden Triangle, demand for opiates is falling.

Despite the overall increase in the global supply of opiates there is an ongoing stabilization, or slow-down, in most of the main consumer markets, including West and Central Europe, North America, East and South-East Asia and the Oceania region. The consumer market for heroin in North America seem to be stable to declining, possibly reflecting a lower supply push from producer countries in South America and the shortage of opiates from South-East Asia.

1.2.2 Production

The sixth straight year of decline in opium cultivation in South-East Asia could not offset an increase in cultivation in Afghanistan

Worldwide, the estimated area under illicit opium poppy increased by 33 per cent in 2006, mainly due to a sharp increase in Afghanistan. Opium poppy cultivation in South-East Asia continued to decline for the sixth consecutive year, but could not offset the increase in Afghanistan. Since 1998, global opium poppy cultivation has decreased by 15 per cent to 201,000 ha in 2006.

The area under opium poppy cultivation in Afghanistan increased by 59 per cent from 104,000 ha in 2005 to 165,000 ha in 2006. This is the largest area under opium poppy cultivation ever recorded in Afghanistan. As cultivation around the world declines, the share of Afghanistan in global opium poppy cultivation has consequently increased: an overwhelming 82 per cent of global opium cultivation took place in just one country in 2006.

Sixty-two per cent of cultivation in Afghanistan was concentrated in the southern region. Opium cultivation spread again at the provincial level with only six out of Afghanistan's 34 provinces being found free of opium poppy cultivation in 2006. In the 12 years since the start of the UNODC opium surveys in 1994, opium cultivation increased in eight years, and decreased in only four. In Pakistan, where opium poppy is grown in the Afghan-Pakistan border region, the Government reported a 59 per cent reduction of opium poppy cultivation bringing the total to just 1,545 ha.

Cultivation in South-East Asia continues to decline. Since 1998, South-East Asia's share of world opium poppy cultivation has fallen from 67 per cent to only 12 per cent in 2006. Much of this has been due to large declines in cultivation in Myanmar, where cultivation declined a further 34 per cent to 21,500 ha in 2006. There are several important elements to this decline. Remarkably, no opium cultivation was observed in the Wa region in 2006, which had accounted for 30 per cent of national opium poppy cultivation in the previous year. Also, contrary to the national trend, a large increase in cultivation was observed in the South Shan State, which increased its share of national cultivation from 34 per cent in 2005 to 73 per cent in 2006. Based on 2006 figures, Myanmar now represents only 11 per cent of the world opium poppy cultivation. In Lao PDR, opium poppy cultivation remained at very low levels in 2006 despite a 700 ha increase to 2,500 ha.

In the Americas, opium poppy continues to be cultivated for use in the illicit markets in North America, although at a much lower level compared to South-West and South-East Asia. Estimates by the Government of Colombia put the area under opium poppy cultivation at about 1,000 ha. The situation as regards opium poppy cultivation in Peru is difficult to quantify as the UNODC supported national illicit crop monitoring system has not yet established a reliable methodology for the detection of opium poppy. The Governments of Colombia, Mexico and Peru all continue to eradicate opium poppy cultivation.

Low levels of opium poppy cultivation continue to exist in many regions and countries such as the Caucasian region, Guatemala, Russian Federation, Thailand, India, Ukraine and Viet Nam.

Opium production continues to increase due to higher yields

Contrary to the downward trend in opium poppy cultivation, global opium production has increased by one half since 1998. In 2006, global opium production increased by 43 per cent, over 2005, to 6,610 mt. The increase in global opium production is more pronounced due to the higher yields achieved by opium poppy farmers in Afghanistan compared to other growing regions. In 2006, Afghanistan alone accounted for 92 per cent of global production, producing 6,100 mt of opium at an average opium yield of 37 kg/ha.

Opium yields in Myanmar ranged from 8.9 kg/ha in East Shan State to 16.6 kg/ha in South Shan State, where the trend towards improved cultivation techniques seems to continue. The national average is 14.6 kg/ha. Yield increases over the last years have kept production figures stable despite the decreases in cultivation. At 315 mt in 2006, therefore, the level of opium production remained close to 2005 levels.

Prices decrease overall in Afghanistan and increase in contracting markets

In Afghanistan, farm-gate prices for dry opium declined slowly but steadily, reaching US$ 125/kg in December 2006 compared to US$ 150/kg one year earlier. Regional price differences continued to exist with considerably higher prices in eastern Afghanistan than in the South, where the bulk of production takes place. Price in all regions except the North decreased in the course of the year 2006. The overall price decrease, although moderate when compared to the large production increase, is thought to reflect the increased supply of opium in the market.

In Myanmar, the farm-gate price for opium increased by 23 per cent from US$ 187/kg in 2005 to US$ 230/kg in 2006 at harvest time. Lao PDR has by far the highest price level for opium with over US$ 500/kg, reflecting the scarcity of opium in the country.

Most laboratories dismantled in the Russian Federation, Republic of Moldova and Afghanistan, with the number increasing in Afghanistan

In 2005, eight countries reported the destruction of laboratories involved in the illicit manufacture of opiates with a total of 844 laboratories destroyed. As in 2004, most laboratories were reported destroyed by the Russian Federation (43 per cent) followed by the Republic of Moldova (33 per cent) and Afghanistan (22 per cent). Laboratories in the Russian Federation and the Republic of Moldova mostly produced acetylated opium from locally cultivated opium poppy straw, whereas laboratories in Afghanistan produced morphine and partly heroin. Smaller numbers of destroyed opium/heroin laboratories were reported by Colombia (6), Myanmar (4), Belarus, India, and Latvia (all one each).

The increasing number of heroin laboratories dismantled in Afghanistan and the virtual disappearance of heroin laboratories from the statistics of other countries on the trafficking route seems to confirm that Afghan opium is increasingly being processed into morphine and heroin within Afghanistan. Preliminary reports of an even higher number heroin laboratories destroyed in Afghanistan in 2006 further corroborate this hypothesis. Seizures of acetic anhydride, a precursor for converting opium into heroin, confirm the availability of this substance in Afghanistan. As acetic anhydride is not produced locally and given the evidence of heroin production within Afghanistan, it can be assumed that the substance is trafficked into the country. Still, none of the countries bordering Afghanistan, with the exception of China, reported seizures of acetic anhydride during 2005 and 2006. Large seizures of morphine in some neighbouring countries (notably Pakistan and Iran) suggested, however, that significant amounts of morphine are still being processed into heroin in countries outside Afghanistan as well.

Table 2: Significant opium poppy eradication reported (hectares), 1995-2006

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Afghanistan	-	-	-	-	400	121	-	-	21,430	*	5,103	15,300
Colombia	3,466	6,885	6,988	2,901	8,249	9,254	2,385	3,577	3,266	3,866	2,121	569
Egypt	-	-	-	-	-	-	-	15	34	65	45	50
Guatemala	-	-	-	-	-		-	-	-	-	48	47
Lao PDR	-	-	-	-	-	-	-	-	4,134	3,556	2,575	1,518
Mexico	5,389	14,671	17,732	17,449	15,461	15,717	15,350	19,157	20,034	15,926	20,803	6,831
Myanmar	3,310	1,938	3,093	3,172	9,824	1,643	9,317	7,469	638	2,820	3,907	3,970
Pakistan	-	867	654	2,194	1,197	1,704	1,484	-	4,185	5,200	391	354
Peru	-	-	-	4	18	26	155	14	57	98	92	88
Thailand	580	886	1,053	716	808	757	832	507	767	122	110	153
Venezuela	-	-	-	-	-	-	-	-	-	87	154	-
Vietnam	477	1,142	340	439	-	426	-	-	-	32	-	-

* Although eradication took place in 2004, it was not officially reported to UNODC.

Table 3: Global illicit cultivation of opium poppy and production of opium, 1990-2006

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
CULTIVATION[a] IN HECTARES																	
SOUTH-WEST ASIA																	
Afghanistan	41,300	50,800	49,300	58,300	71,470	53,759	56,824	58,416	63,674	90,583	82,171	7,606	74,100	80,000	131,000	104,000	165,000
Pakistan	7,488	7,962	9,493	7,329	5,759	5,091	873	874	950	284	260	213	622	2,500	1,500	2,438	1,545
Subtotal	48,788	58,762	58,793	65,629	77,229	58,850	57,697	59,290	64,624	90,867	82,431	7,819	74,722	82,500	132,500	106,438	166,545
SOUTH-EAST ASIA																	
Lao PDR	30,580	29,625	19,190	26,040	18,520	19,650	21,601	24,082	26,837	22,543	19,052	17,255	14,000	12,000	6,600	1,800	2,500
Myanmar	150,100	160,000	153,700	165,800	146,600	154,070	163,000	155,150	130,300	89,500	108,700	105,000	81,400	62,200	44,200	32,800	21,500
Thailand [b]	1,782	3,727	3,016	998	478	168	368	352	716	702	890	820	750				
Viet Nam [b]	18,000	17,000	12,199	4,268	3,066	1,880	1,743	340	442	442							
Subtotal	200,462	210,352	188,105	197,106	168,664	175,768	186,712	179,924	158,295	113,187	128,642	123,075	96,150	74,200	50,800	34,600	24,000
LATIN AMERICA																	
Colombia		1,160	6,578	5,008	15,091	5,226	4,916	6,584	7,350	6,500	6,500	4,300	4,100	4,100	3,950	2,000	1,000
Mexico [c]	5,450	3,765	3,310	3,960	5,795	5,050	5,100	4,000	5,500	3,600	1,900	4,400	2,700	4,800	3,500	3,300	n/a
Subtotal	5,450	4,925	9,888	8,968	20,886	10,276	10,016	10,584	12,850	10,100	8,400	8,700	6,800	8,900	7,450	5,300	4,300
OTHER																	
Combined [d]	8,054	7,521	2,900	5,704	5,700	5,025	3,190	2,050	2,050	2,050	2,479	2,500	2,500	3,000	5,190	5,162	6,155
GRAND TOTAL	**262,754**	**281,560**	**259,686**	**277,407**	**272,479**	**249,919**	**257,615**	**251,848**	**237,819**	**216,204**	**221,952**	**142,094**	**180,172**	**168,600**	**195,940**	**151,500**	**201,000**
POTENTIAL PRODUCTION IN METRIC TONS OPIUM (e)																	
SOUTH-WEST ASIA																	
Afghanistan	1,570	1,980	1,970	2,330	3,416	2,335	2,248	2,804	2,693	4,565	3,276	185	3,400	3,600	4,200	4,100	6,100
Pakistan	150	160	181	161	128	112	24	24	26	9	8	5	5	52	40	36	39
Subtotal	1,720	2,140	2,151	2,491	3,544	2,447	2,272	2,828	2,719	4,574	3,284	190	3,405	3,652	4,240	4,136	6,139
SOUTH-EAST ASIA																	
Lao PDR	202	196	127	169	120	128	140	147	124	124	167	134	112	120	43	14	20
Myanmar	1,621	1,728	1,660	1,791	1,583	1,664	1,760	1,676	1,303	895	1,087	1,097	828	810	370	312	315
Thailand [b]	20	23	14	17	3	2	5	4	8	8	6	6	9				
Viet Nam [b]	90	85	61	21	15	9	9	2	2	2							
Subtotal	1,933	2,032	1,862	1,998	1,721	1,803	1,914	1,829	1,437	1,029	1,260	1,237	949	930	413	326	335
LATIN AMERICA																	
Colombia		16	90	68	205	71	67	90	100	88	88	80	76	76	56	28	14
Mexico [e]	62	41	40	49	60	53	54	46	60	43	21	91	58	101	73	71	n/a
Subtotal	62	57	130	117	265	124	121	136	160	131	109	171	134	177	129	99	85
OTHER																	
Combined [d]	45	45	-	4	90	78	48	30	30	30	38	32	32	24	68	59	51
GRAND TOTAL	**3,760**	**4,274**	**4,143**	**4,610**	**5,620**	**4,452**	**4,355**	**4,823**	**4,346**	**5,764**	**4,691**	**1,630**	**4,520**	**4,783**	**4,850**	**4,620**	**6,610**
HEROIN																	
Potential HEROIN [f]	**376**	**427**	**414**	**461**	**562**	**445**	**436**	**482**	**435**	**576**	**469**	**163**	**452**	**478**	**495**	**472**	**606**

(a) Opium poppy harvestable after eradication.

(b) Due to small production, cultivation and production were included in the category " Other", for Viet Nam as of 2000 and for Thailand as of 2003.

(c) As its survey system is under development, the Government of Mexico indicates it can neither provide cultivation estimates nor endorse those published by UNODC, which are derived from US Government surveys.

(d) Includes Russia, Ukraine, Central Asia, Caucasus region, other C.I.S. countries, Baltic countries, Guatemala, Peru, Viet Nam (as of 2000), Thailand (as of 2003), India, Egypt and Lebanon.

(e) All figures refer to dry opium.

(f) Heroin estimates for Afghanistan are based on the Afghanistan Opium Survey (since 1994). For other countries, a 10:1 ratio is used for conver sion from opium to heroin.

Fig. 14: Global opium poppy cultivation (hectares), 1990-2006

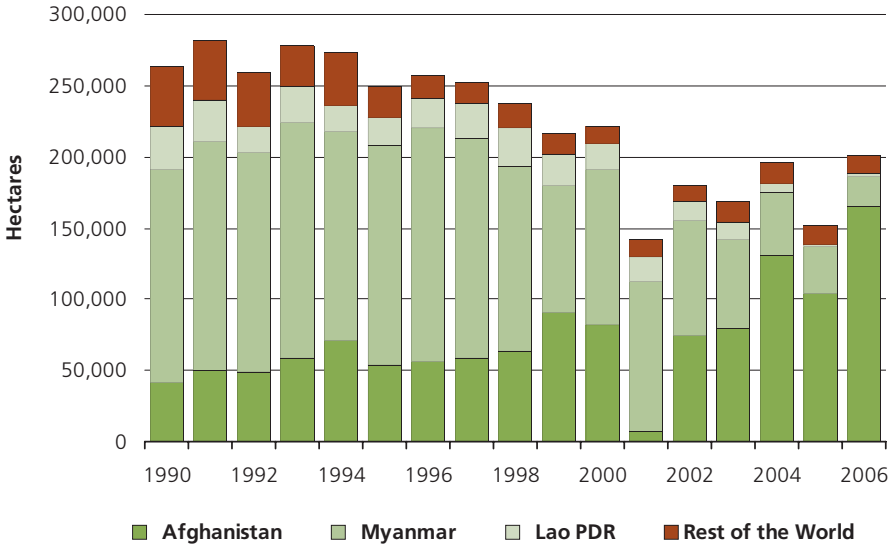
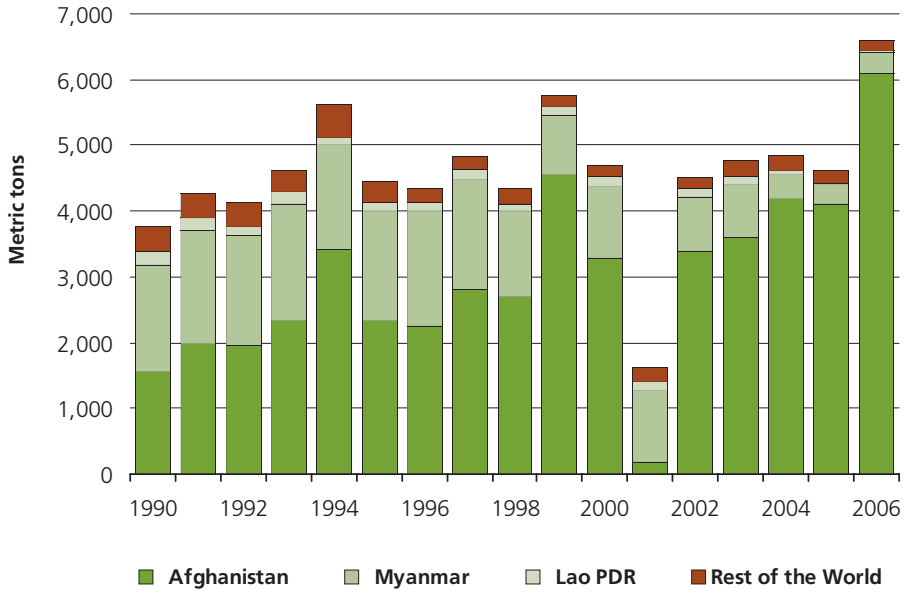
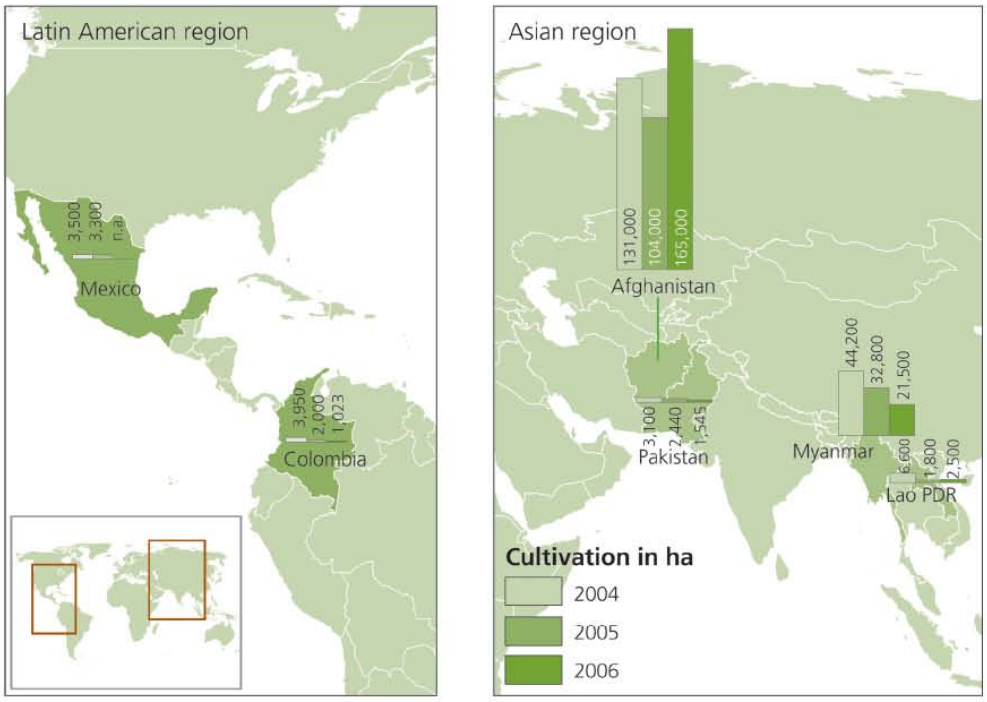


Fig. 15: Global opium production (metric tons), 1990-2006



Map 2: Opium poppy cultivation, 2004 -2006



Map 3: Opium poppy production, 2004 -2006

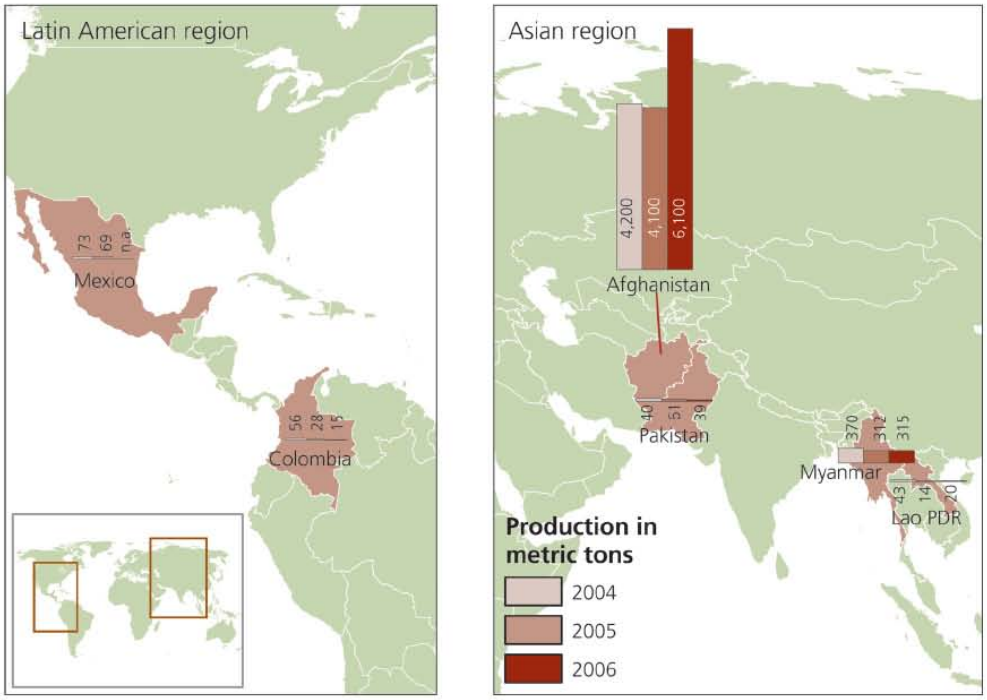


Fig. 16: Annual opium poppy cultivation and opium production in main producing countries, 1990-2006

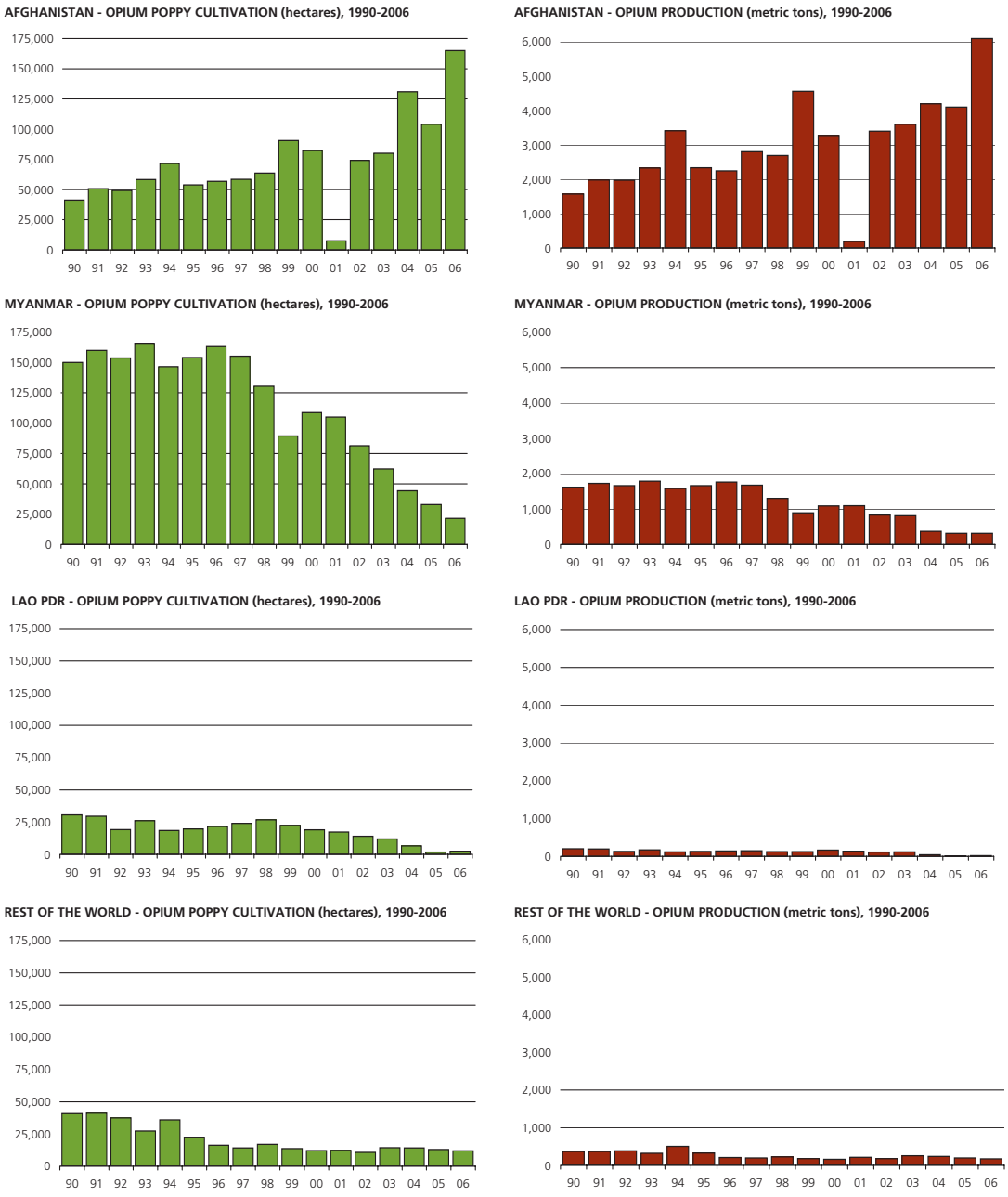


Fig. 17: Opium poppy cultivation

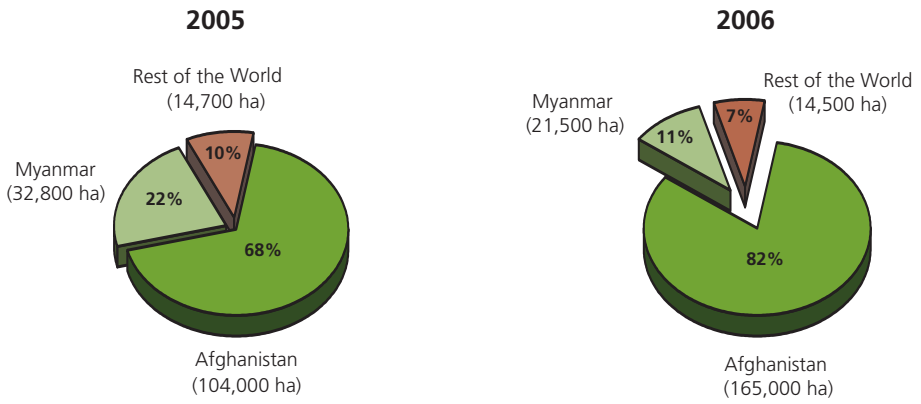
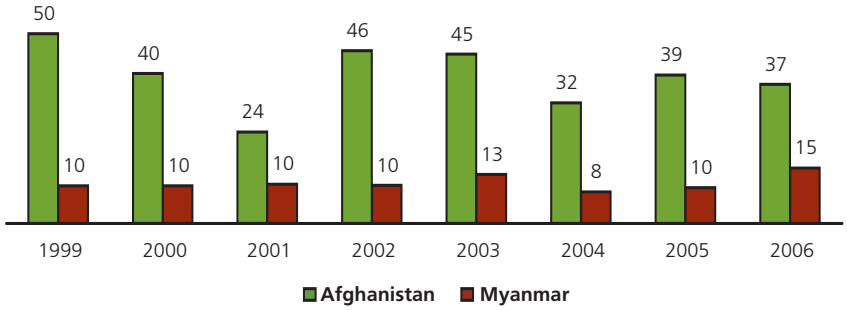
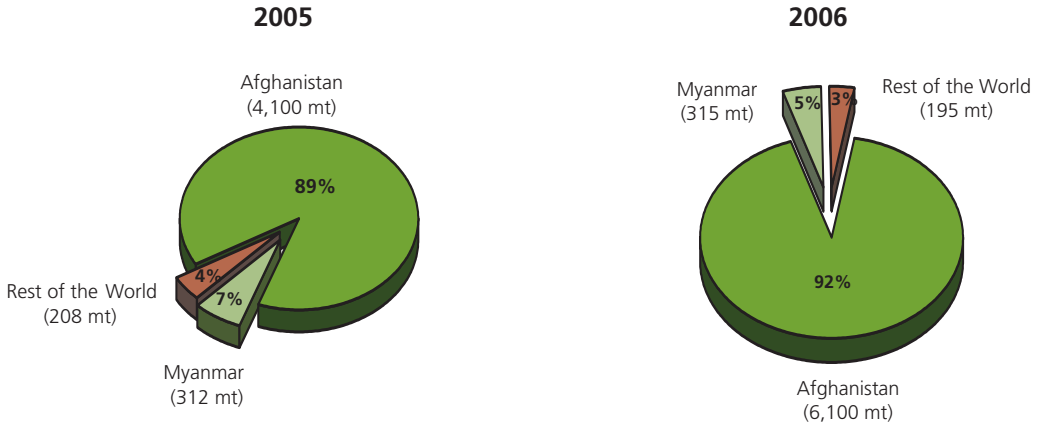


Fig. 18: Opium yields in Afghanistan and Myanmar (kg/ha), 1999-2006



Differences in opium yield between Afghanistan and Myanmar are due to differences in opium poppy varieties and growing conditions. Variations of yields from year to year in the same country are mostly caused by changes in weather conditions and/or, as in the case of Afghanistan in 2001, by a shift in the relative distribution of cultivation from irrigated to rain-fed land.

Fig. 19: Opium production



1.2.3 Trafficking

Opiates are trafficked along three major routes

There are three distinct production centres for opiates which supply three distinct markets, namely:

- Afghanistan supplying neighbouring countries, the Middle East, Africa and, in particular, Europe;
- Myanmar/Lao PDR supplying neighbouring countries, in particular China, and Oceania (mainly Australia); and,
- Latin America (Mexico, Colombia, Guatemala and Peru) supplying North America, in particular the USA.

In 2006, out of all opiates that left Afghanistan, 53 per cent went via Iran, 33 per cent via Pakistan and 15 per cent via Central Asia (mainly Tajikistan). If only heroin and morphine are considered, the bulk is estimated to have left Afghanistan via Pakistan (48%), followed by Iran (31%) and Central Asia (21%).[1]

The route from Afghanistan continues to go mainly via Pakistan, Iran, Turkey and the Balkan countries to distribution centres in West Europe. However, alternative routes have also been established to circumvent the border between Turkey and Bulgaria, some via Ukraine to Romania and along the Balkan route to West Europe.

While seizure data and intelligence information suggested that the West Balkan route gained significance over the 2000-2004 period, this trend did not appear to continue in 2005. Furthermore, seizures rose along the East Balkan route, mainly reflecting rising seizures reported by Romania and Hungary, while seizures made in both Bulgaria and Turkey declined.

The route to the Russian Federation and other C.I.S. countries goes mainly via Central Asia; heroin destined for the Baltic and Nordic countries is also shipped along this route. Other direct air routes go to Europe via Pakistan (notably to the UK), via the Middle East, eastern and western Africa, as well as (according to Interpol) via western Africa to North America.

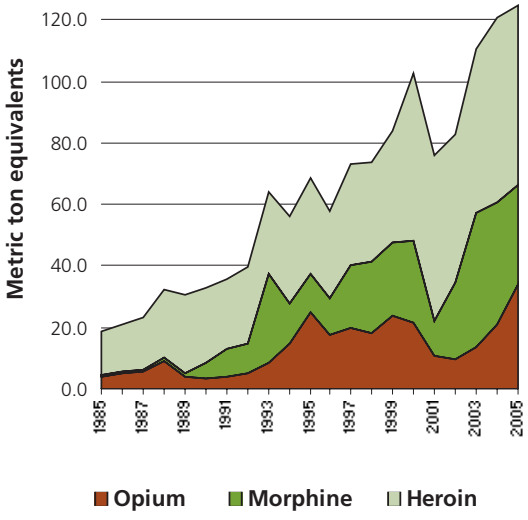
In 2005/06, new heroin routes have emerged from Afghanistan via Pakistan to China and India, as well as via Central Asia to China. This has partly offset a decline in the supply of heroin from Myanmar to China.

The global interception rate for opiates continues to increase …

In 2005, global seizures were: 342 mt opium (up from 212 in 2004), 32 mt morphine (down from 39 in 2004) and 59 mt heroin (60 in 2004). All opiate seizures combined (heroin, morphine and opium, as expressed in heroin equivalents[2]), amounted to 125 mt in 2005, representing a 3 per cent increase from 121 mt in 2004.

Over the last decade, the annual growth in opiates-seizures averaged 6 per cent, which exceeded growth in global opium production and resulted in an increase in the global interception rate for opiates from 15 per cent in 1995 to 26 per cent in 2006.

Fig.20: Global opiate seizures, expressed in heroin equivalents, by substance, 1985-2005



Source: UNODC, Annual reports Questionnaire Data / DELTA.

[1] UNODC, *Afghanistan Opium Survey 2006*, October 2006.

[2] For the purposes of this calculation it is assumed that 10 kg of opium are equivalent to 1 kg of morphine or 1 kg of heroin.

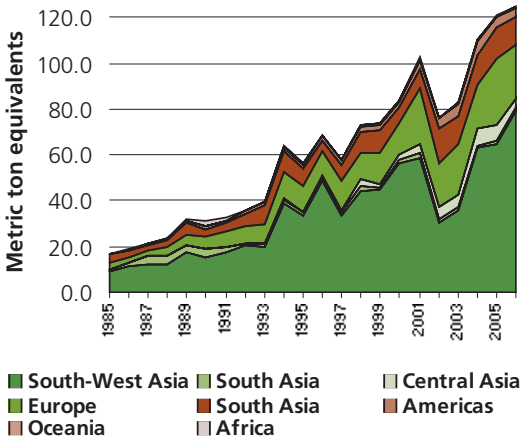
… with the bulk of seizures close to the areas of production…

In 2005, the majority of opiate seizures (67%) took place in the countries surrounding Afghanistan. When seizures made in Europe are added these seizures combined accounted for 87 per cent of the global total. The remaining seizures were made in East and South-East Asia and Oceania (10%), with the Americas accounting for 4 per and Africa 0.2 per cent. Africa's opiate supplies are increasingly arriving from South-West Asia. [3]

Opiate seizures increased in South-West Asia in 2005 (up 22%), but declined in East and South-East Asia (down 12%), reflecting the decreasing production in Myanmar and Lao PDR. The strong increase in seizures in South-West Asia also helped stabilize the European market, where opiate seizures declined by 10 per cent.

Meanwhile, opiate seizures rose by 17 per cent in East Europe (defined as the European C.I.S. countries), which is supplied with Afghan opiates via Central Asia. Seizures in Central Asia declined by 38 per cent in 2005, mostly because of Tajikistan (down 51 per cent). This decline was associated with the transitional arrangements following the transfer of border control to the Tajik authorities. Nonetheless, Tajikistan seized the bulk of all opiates in Central Asia (almost 60 per cent in 2005). Kyrgyzstan, Uzbekistan and Kazakhstan all reported increases in seizures, as did the Russian Federation.

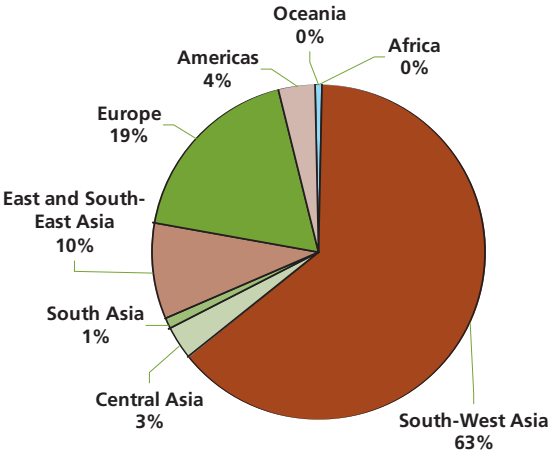
Fig. 21: Global opiate seizures, expressed in heroin equivalents*, regional breakdown, 1985-2005



* For the purposes of this calculation it is assumed that 10 kg of opium are equivalent to 1 kg of morphine and 1 kg of heroin.

Source: UNODC, Annual Reports Questionnaire Data / DELTA

Fig. 22: Global opiate seizures, expressed in heroin equivalents*, regional breakdown in 2005



Source: UNODC, Annual Reports Questionnaire Data / DELTA

* For the purposes of this calculation it is assumed that 10 kg of opium are equivalent to 1 kg of morphine and 1 kg of heroin.

… and primarily along the Afghanistan-Europe trafficking route.

Between 2002 and 2005, the proportion of opiate seizures along the Afghanistan–Europe trafficking route increased from 78 to 87 per cent, reflecting rising opium production in Afghanistan. Seizures along the other two main routes decreased, from 15 to 10 per cent for South-East Asia/Oceania and from 7 to 4 per cent from Latin America to North America. These reflect production declines in South-East Asia and Latin America.

Opiate trafficking levels from South-East Asia to North America and Europe, as well as from Latin America to Europe, remained low. As of 2005/06, however, Afghan-produced opiates were trafficked to China in increasing amounts.

[3] UNODC, Annual Reports Questionnaire data.

Fig. 23: Distribution of opiate seizures (expressed in heroin equivalents*), 2002-2004

* applying a conversion ratio of 10 kg of opium equivalent to 1 kg of morphine and 1 kg of heroin

Source: UNODC, Annual reports Questionnaire Data / DELTA.

The world's largest opiate seizures are made by Iran and Pakistan

In 2005, Iran made the world's largest opiate (heroin, morphine and opium in heroin equivalents) seizures (29 %), followed by Pakistan (20%), Afghanistan (15 %), China (7.5%), Turkey (7%), the Russian Federation (4%) and Tajikistan (2%). The UK[4] accounted for 1.8 per cent, the USA 1.4 per cent and Italy 1.1 per cent of global opiates seizures.

Although Afghanistan accounted for only 2 per cent of global opiate seizures in 2002, this proportion rose to 4 per cent in 2004 and to 15 per cent in 2005, representing the largest increase globally that year.

If the opiate seizures of 2005 are broken down by substance, the following picture emerges:

- Opium (342 mt): Iran 68 per cent (reflecting large domestic consumption), Afghanistan 27 per cent and Pakistan 2 per cent.
- Heroin and morphine together (91 mt): Pakistan 27 per cent, Iran 14 per cent, China, Afghanistan and Turkey 10 per cent each, the Russian Federation 5 per cent and Tajikistan 3 per cent.
- Morphine (32 mt): Pakistan 69 per cent, Iran 22 per cent, Afghanistan 6 per cent and Turkey 2 per cent. As drug users do not typically consume morphine, the large seizures indicate subsequent heroin manufacturing. The large seizures of morphine reported by Afghanistan's neighbours also indicate that significant quantities of heroin are still being produced outside Afghanistan. However, Pakistan, Iran or Turkey did not report any dismantling of clandestine heroin laboratories in 2005, thus leaving open the question of where the manufacturing is actually taking place.
- Heroin (59 mt): China 15 per cent, Turkey 14 per cent, Afghanistan 12 per cent, Iran 10 per cent, the Russian Federation 8 per cent, as well as Tajikistan, the UK[5] and Pakistan 4 per cent each, the USA 3 per cent and Italy 2 per cent. This shows that China is the largest heroin market in East and South-East Asia; the Russian Federation is by far the largest in East Europe; the UK and Italy are the largest markets in western Europe; and the USA is the largest market in the Americas.

South-West Asia reports record seizures in 2006 …

Preliminary data from Iran and Pakistan suggest a further increase of 46 per cent in total opiate seizures in 2006. While this shows continued efforts in both countries it also reflects the 49 per cent increase in Afghanistan's opium production in 2006, mainly in the southern provinces close to Pakistan and Iran. Opiate seizures also increased in Turkey in 2006, by almost 25 per cent, suggesting that the 'traditional' route via Pakistan, Iran, Turkey and the Balkan countries regained importance.

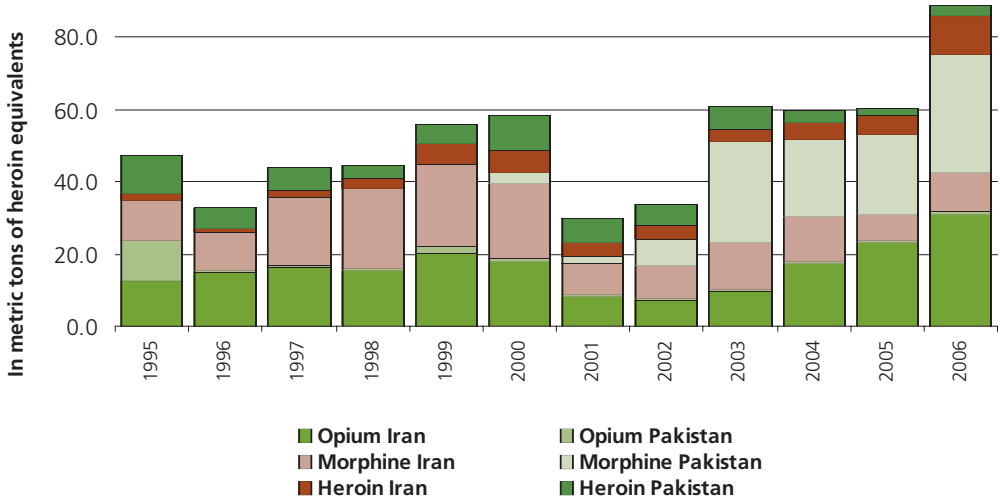
… while opiate seizures remain flat in Central Asia

In contrast, preliminary seizure data from the countries of Central Asia shows a stabilization of opiate seizures with a 1 per cent increase, following a 38 per cent decline in 2005. UNODC estimates suggest, however, that trafficking via Central Asia increased by some 12 per cent in 2006.

[4] Data reported from the UK refer to the year 2004; these data are used here as a proxy for seizures made in 2005.

[5] *ibid.*

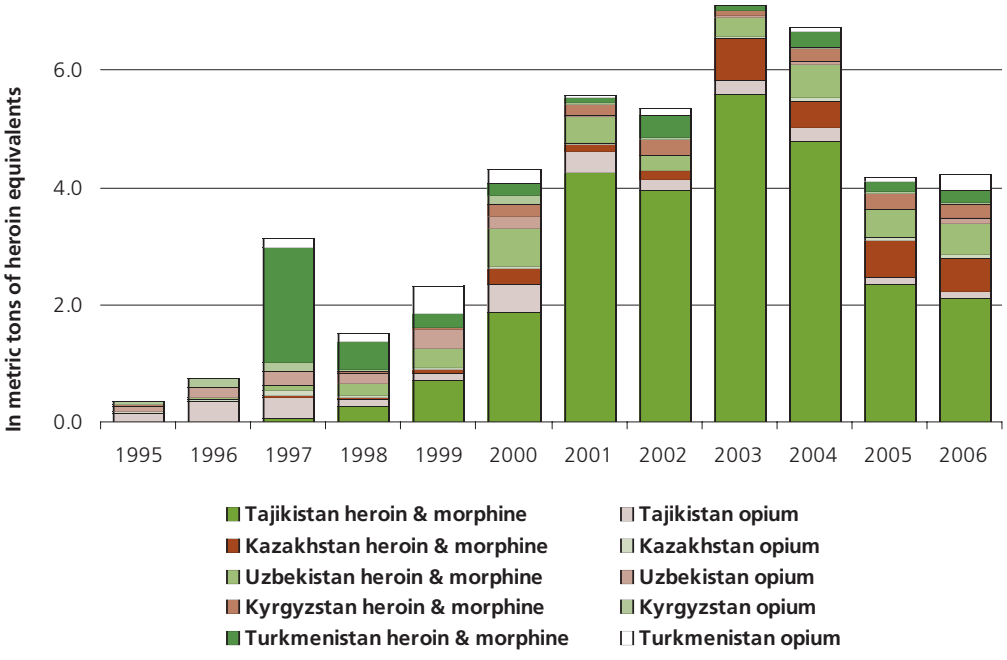
Fig. 24: Opiate seizures in heroin equivalents* in Pakistan and Iran, 1995-2006



* For the purposes of this calculation it is assumed that 10 kg of opium are equivalent to 1 kg of morphine and 1 kg of heroin.

Source: UNODC, Annual Reports Questionnaire Data / DELTA

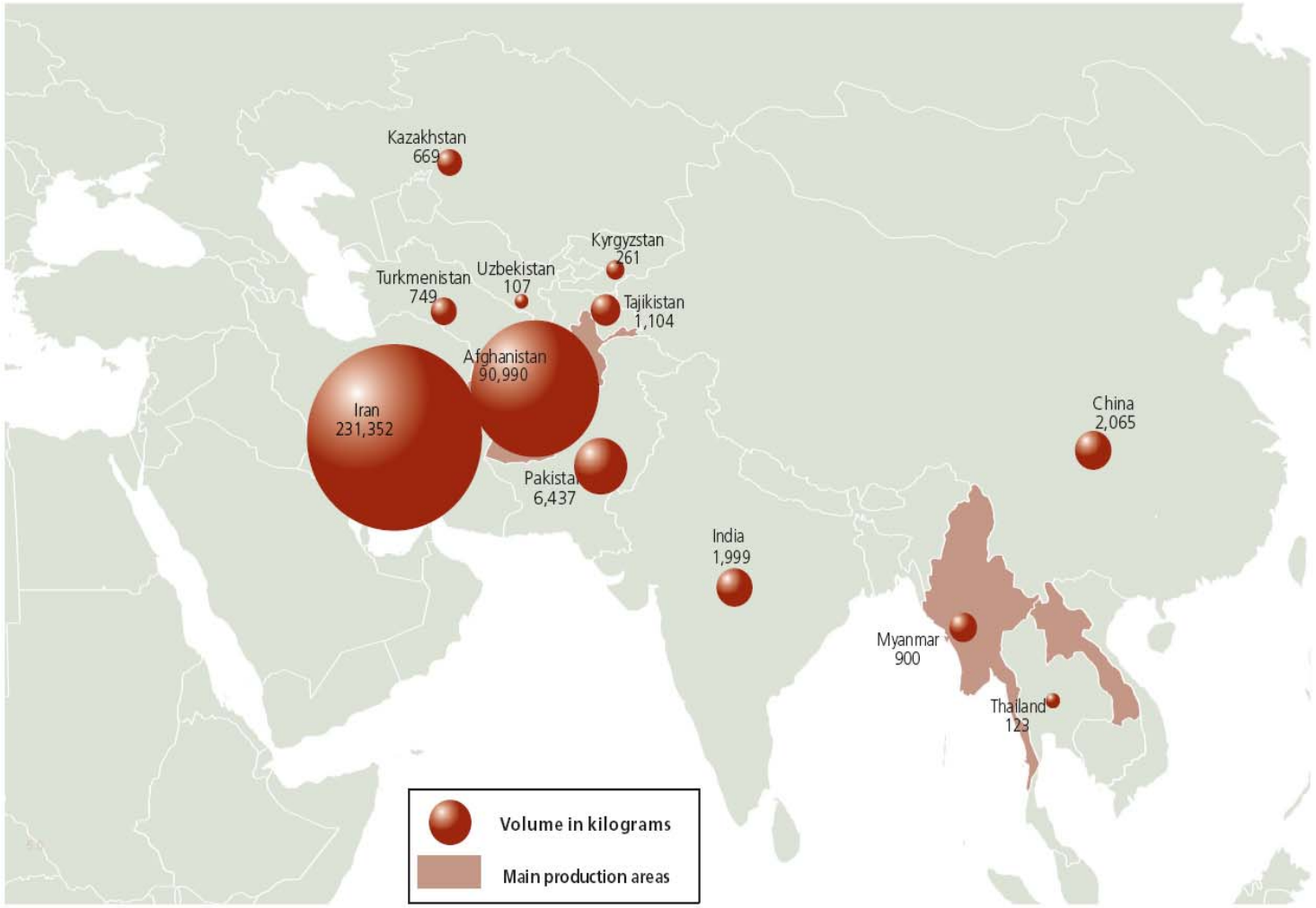
Fig. 25: Opiate seizures in Central Asia, 1995-2006



* For the purposes of this calculation it is assumed that 10 kg of opium are equivalent to 1 kg of morphine and 1 kg of heroin; there have been practically no morphine seizures reported from countries of Central Asia in recent years.

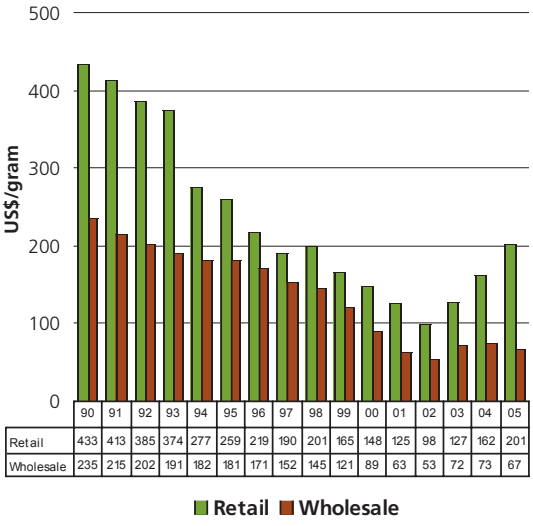
Source: UNODC, Annual Reports Questionnaire Data / DELTA

Map 4: Trafficking in opium, 2005 (countries reporting seizures* of more than 10 kg)



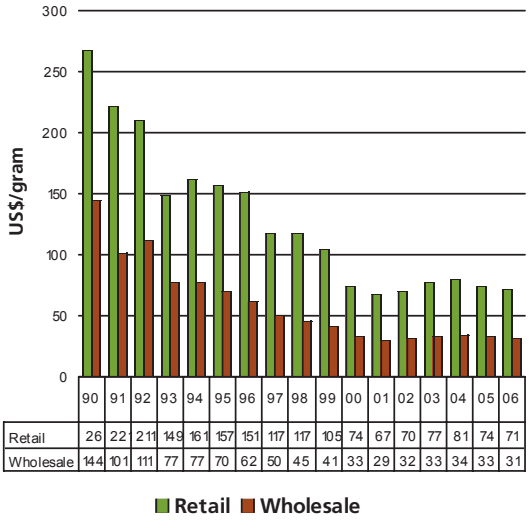
* Seizures as reported (street purity)
Source: UNODC Annual Reports Questionnaires data/DELTA

Fig. 26: USA: Heroin retail and whole sale prices, 1990-2005 (US$/gram)



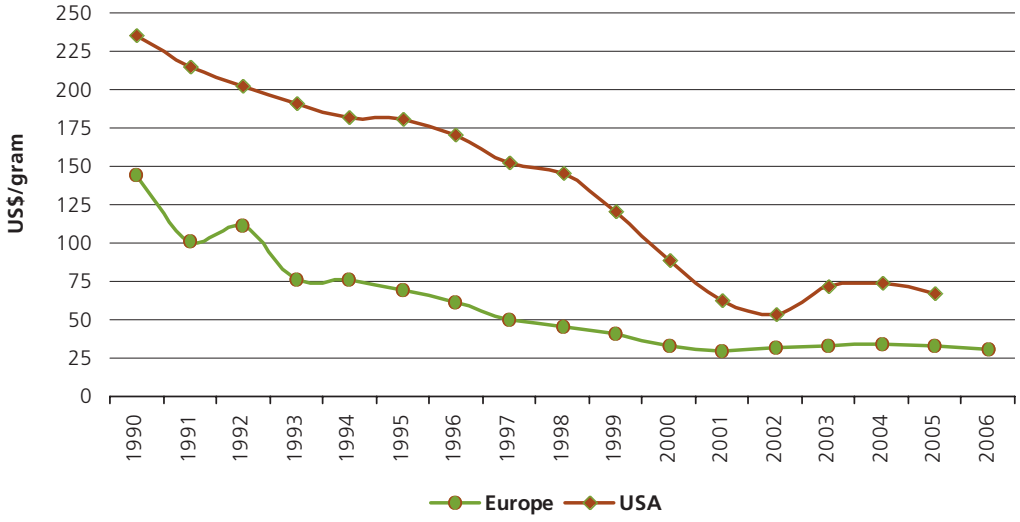
	90	91	92	93	94	95	96	97	98	99	00	01	02	03	04	05
Retail	433	413	385	374	277	259	219	190	201	165	148	125	98	127	162	201
Wholesale	235	215	202	191	182	181	171	152	145	121	89	63	53	72	73	67

Fig. 27: EUROPE: Heroin retail and wholesale prices, 1990-2006 (US$/gram)

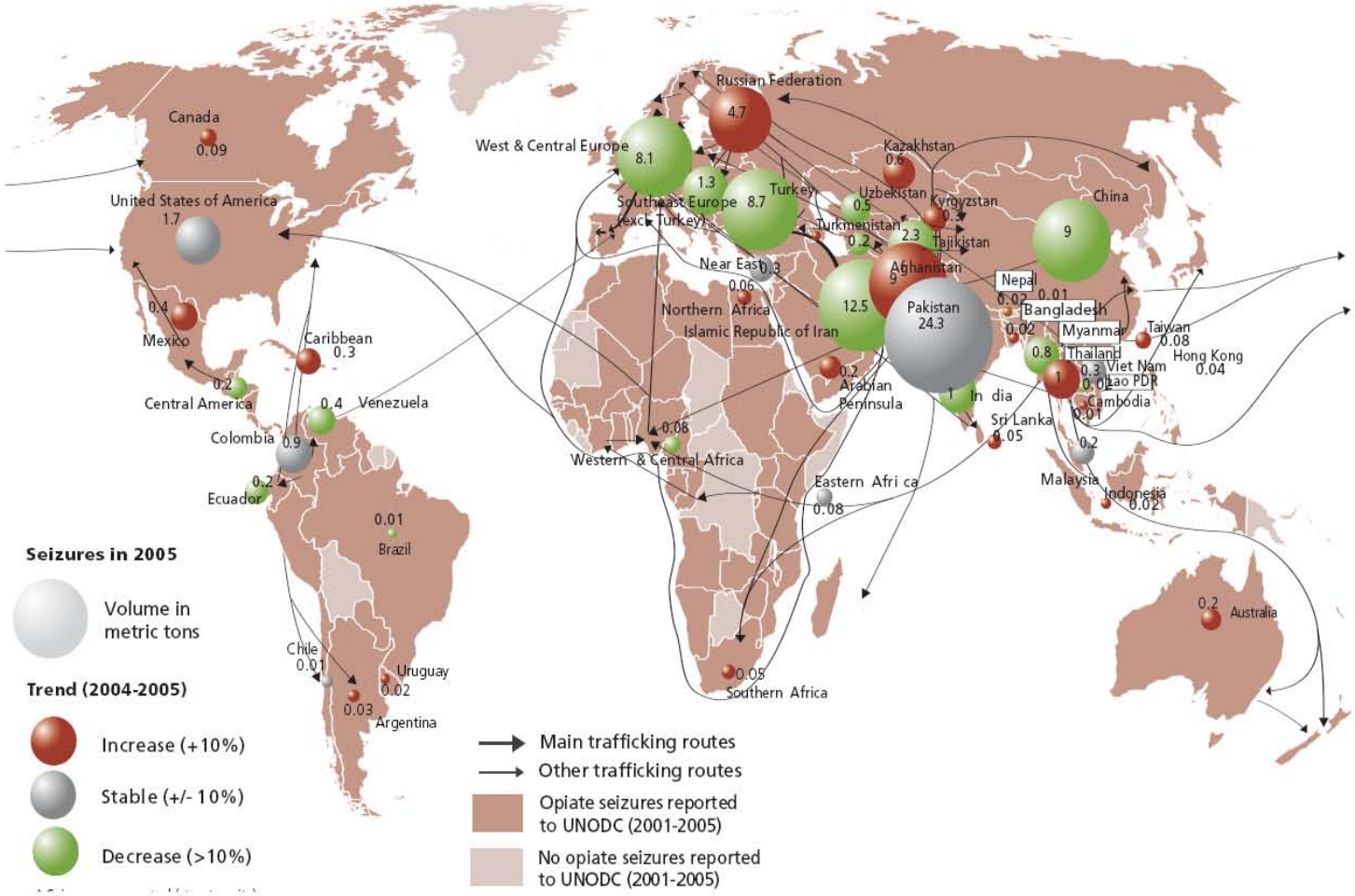


	90	91	92	93	94	95	96	97	98	99	00	01	02	03	04	05	06
Retail	26	22	21	14	16	15	15	11	11	10	7	6	7	7	8	7	7
Wholesale	14	10	11	7	7	7	6	5	4	4	3	2	3	3	3	3	3

Fig. 28: Wholesale heroin prices in Europe and the USA, 1990-2006 (US$/gram)

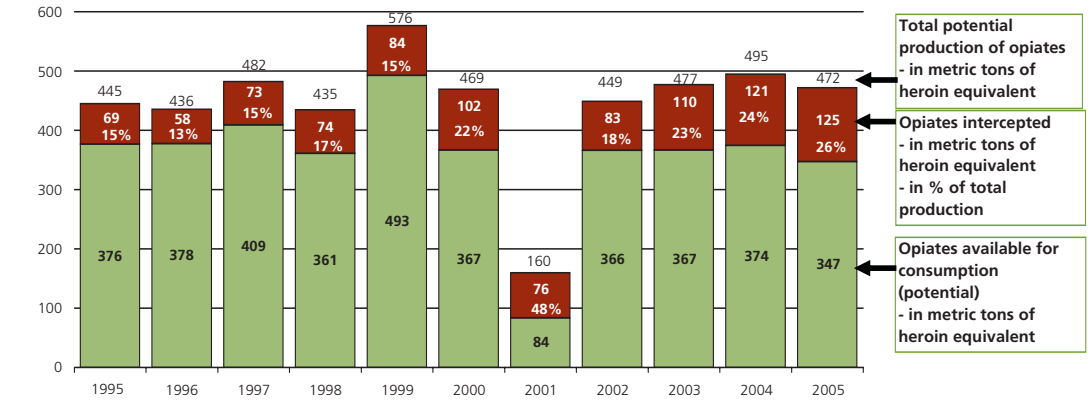


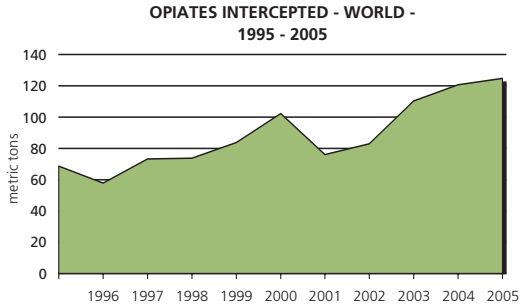
Map 5: Trafficking in heroin and morphine 2006 (countries reporting seizures* of more than 10 kg)

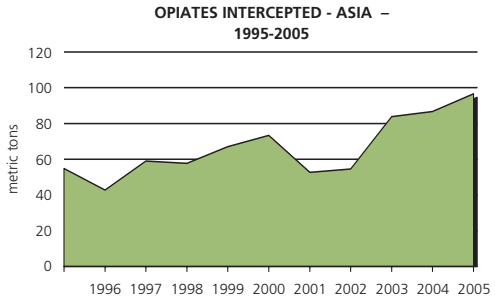


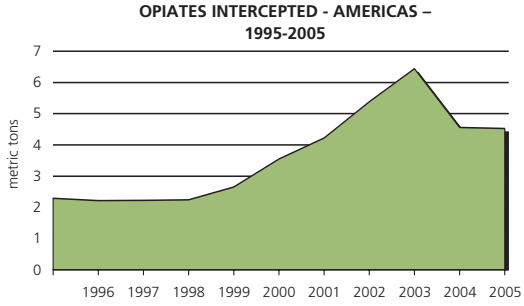
* Seizures as reported (street purity)
Source: UNODC Annual Reports Questionnaires data/DELTA, UNODC Data for Africa Project.

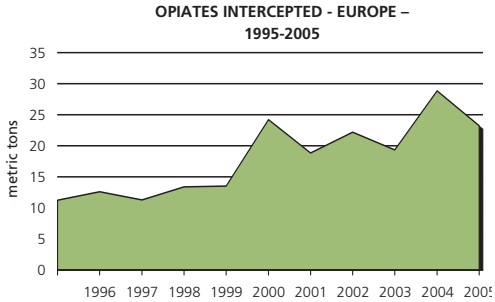
Fig. 29: Global illicit supply of opiates, 1994 - 2005

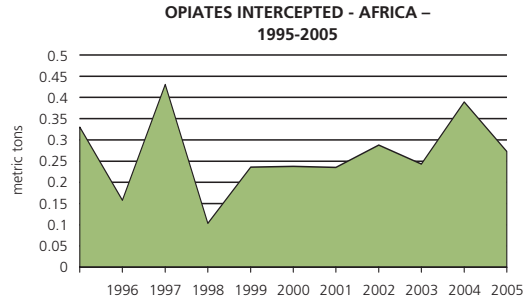












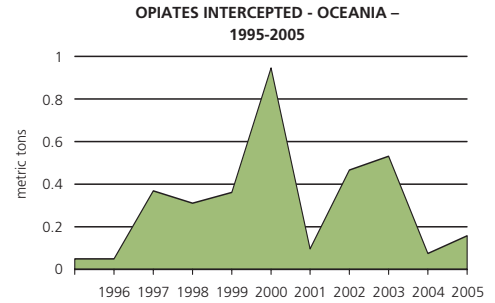
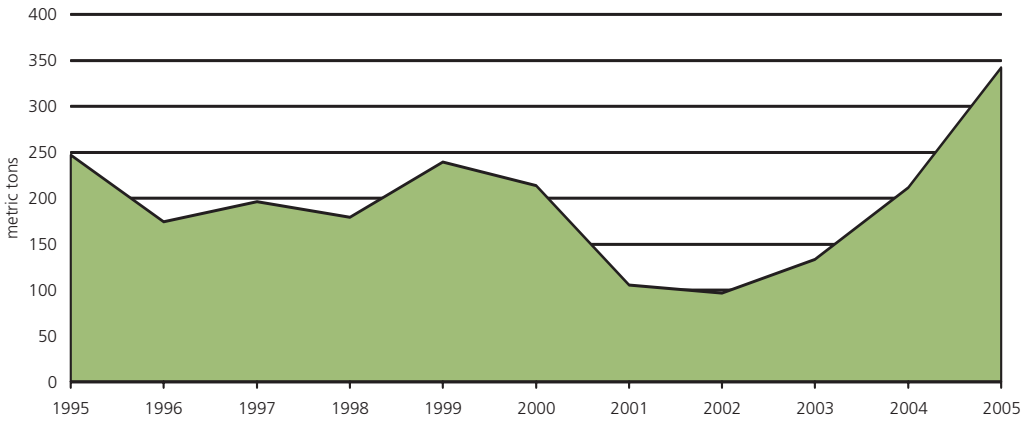


Fig. 30: Global seizures of opium 1995 - 2005



Year	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Metric tons	247	174	196	179	239	213	106	97	133	212	342

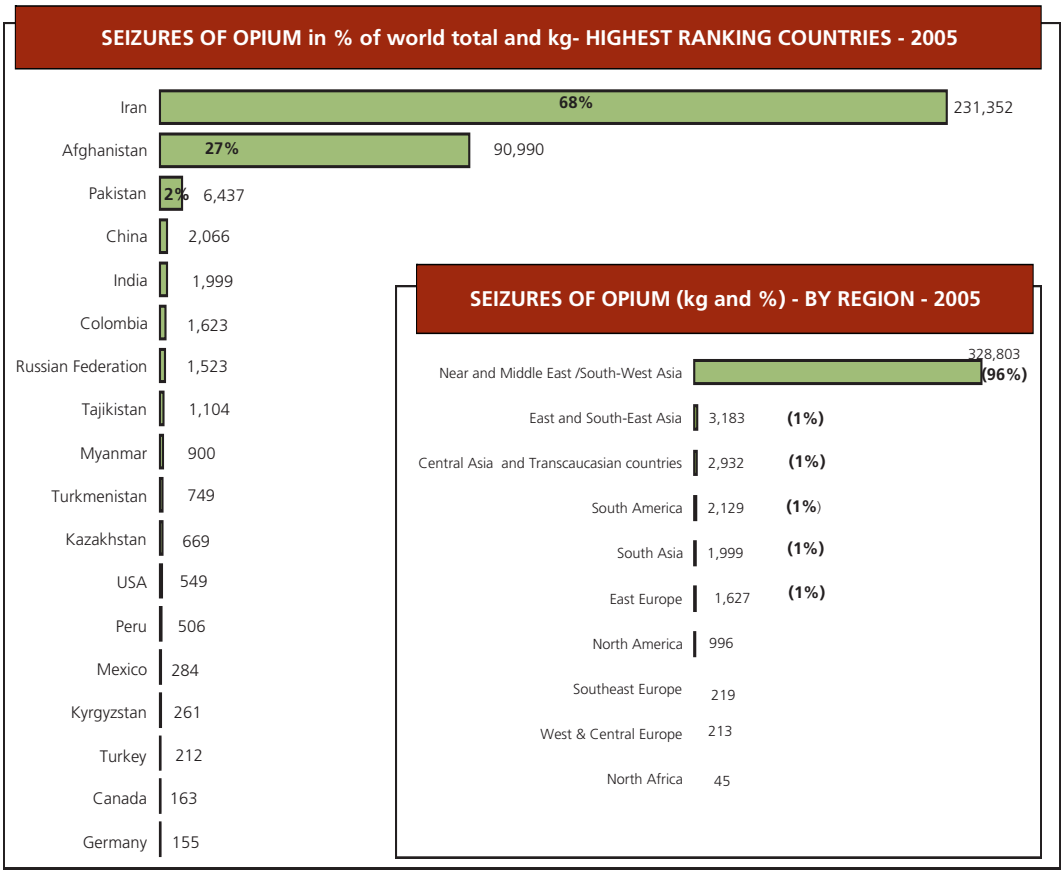
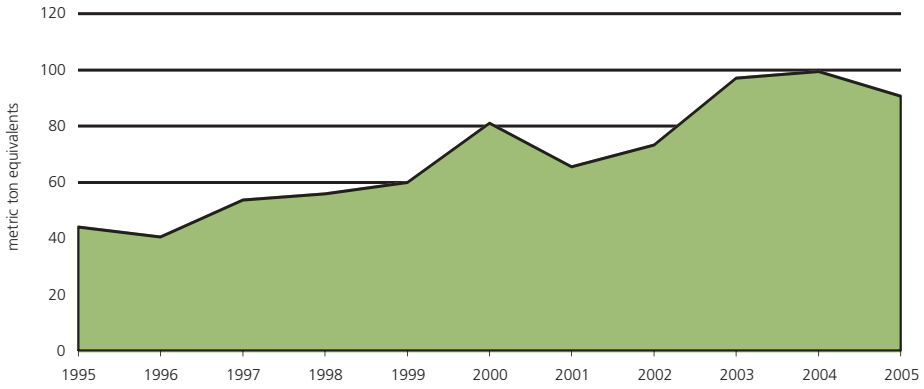


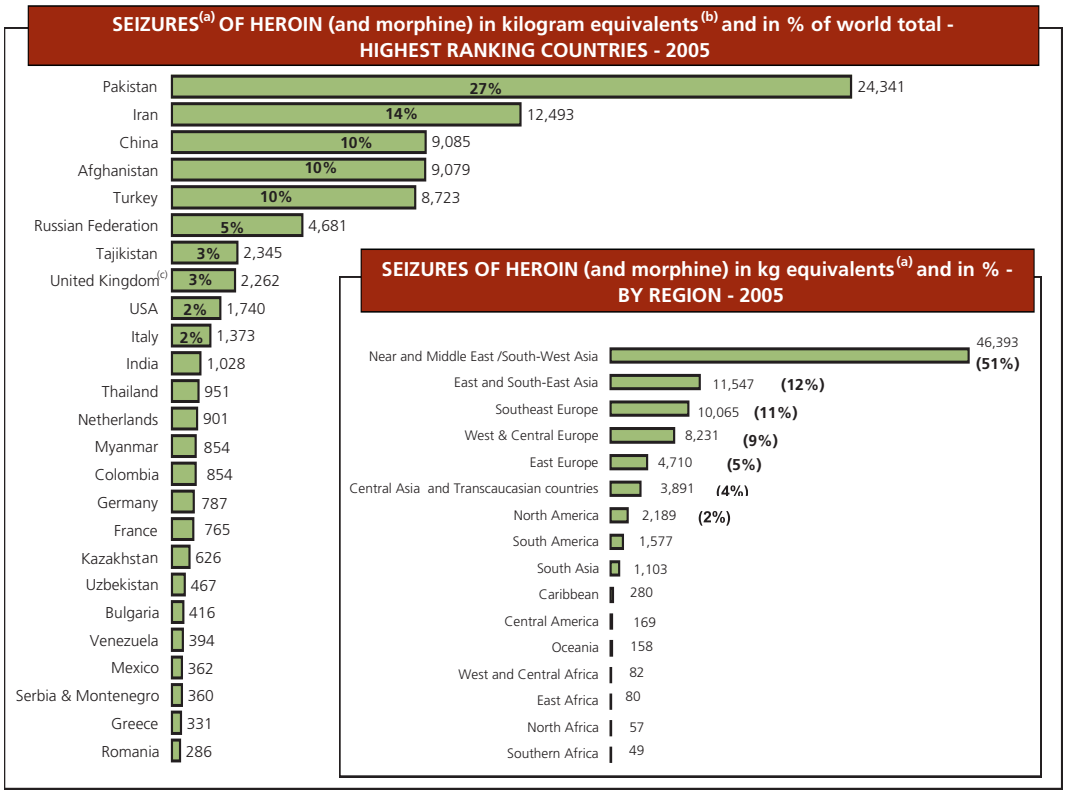
Fig. 31: Global seizures of heroin [a] and morphine [b] , 1995 - 2005



[a] Seizures as reported (street purity)

[b] metric ton equivalents. 1 kg of morphine is assumed to be equivalent to 1 kg of heroin

Year	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Metric ton Equivalents	44	40	54	56	60	78	66	73	97	99	91



[a] Seizures as reported (street purity)

[b] 1 kg of morphine is assumed to be equivalent to 1 kg of heroin

[c] data refer to 2004

1.2.4 Abuse

Global abuse of opiates remains essentially stable

Global opiate abuse has stabilised at an estimated 15.6 million people, or 0.4 per cent of the world's population aged 15-64. Opiates continue to be the main problem drug worldwide, accounting for some 60 per cent of treatment demand in Asia and in Europe.

More than half of the world's opiates using population lives in Asia, with the highest levels of abuse occurring along the main drug trafficking routes out of Afghanistan. Annual prevalence of opiates, including heroin, is high in the Islamic Republic of Iran where the number of drug abusers is said to exceed 1.2 million (2.8 percent of the general population aged 15-64). The abuse of opiates is also high in Central Asia. The latest surveys undertaken in cooperation with UNODC's Global Assessment Programme on Drug Abuse (GAP), found that prevalence rates of opiates abuse in 2006 ranged from 0.5 per cent of the population aged 15-64 in Tajikistan to 0.8 per cent in Uzbekistan and Kyrgyzstan and 1.0 per cent in Kazakhstan. The total number of opiates users in Central Asia is close to 300,000 persons.

A new study conducted in Pakistan estimated a prevalence rate of 0.7 per cent for the four main provinces of the country (range: 400,000 – 600,000 persons) in the year 2006. Extrapolating from these results, UNODC estimates that there are approximately 640,000 opiates users in Pakistan; of these about 500,000 are heroin users. Theses findings mirror those of a study undertaken in 2000/01. Given the massive increase of opium and heroin production in neighbouring Afghanistan this stability in prevalence rates is a notable achievement. The prevalence rates for opiates use range from 0.4 per cent in the provinces of Punjab and Sind to 0.7 per cent in the North-West Frontier Province and 1.1 per cent in Baluchistan.[1] The latter two provinces share a direct border with Afghanistan. While the overall rate of abuse has not changed much in Pakistan, the proportion of injecting drug users has increased alarmingly, from 3 per cent in 1993 to 15 per cent in 2000/01 and 29 per cent in 2006.

A study published in India in 2004 revealed opiate prevalence rates of around 0.7 per cent for males[2], which is equivalent to an annual prevalence of around 0.4 per cent of the general population aged 15-64, or slightly less than 3 million people. Opiate abuse in India increased in 2005, fuelled by the increasing availability of heroin smuggled from Afghanistan.

Annual prevalence in China (2004) is estimated to be less than 0.2 per cent or 1.7 million people. The number of officially registered 'active' drug users in China was 785,000 in 2005 of which 700,000 (or 78%) were heroin users, 2.28 per cent were opium users and 0.19 per cent were morphine users. The Chinese opiates market is reported to have stabilized in 2005/06.[3]

Opiates abuse is basically stable or declining in West and Central Europe. The annual prevalence rate remained close to 0.5 per cent of the population aged 15-64 (1.5 million people). Major opiates markets in Western Europe are the United Kingdom (some 350,000 persons) and Italy (300,000), followed by France (170,000), Germany (120,000) and Spain (70,000). Data for Spain suggest that opiates abuse has declined in recent years. These data are derived from problem drug use estimates. Household survey results in all of the countries mentioned above show substantially lower figures (with prevalence rates typically around 0.2%). Household surveys, however, may not provide the optimal measure of the number of opiates abusers as many heroin addicts do not have a fixed or permanent residence.

The largest opiates market in East Europe is most likely the Russian Federation. However, estimates of the number of opiate users vary substantially[4]. UNODC

[1] UNODC, Global Assessment Programme on drug Abuse (GAP), National Assessment of Problem Drug Use in Pakistan 2007, preliminary results, May 2007.

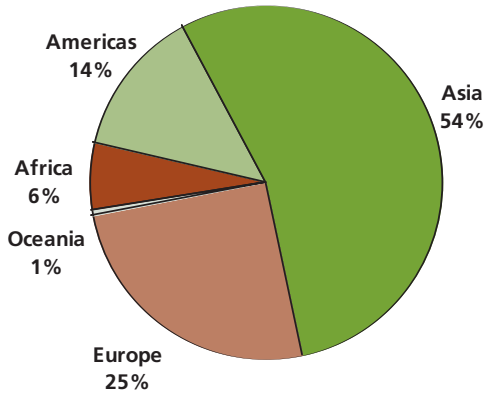
[2] UNODC and Ministry of Social Justice and Empowerment, Government of India, *The Extent, Pattern and Trends of Drug Abuse in India, National Survey, 2004*.

[3] Zhao Wanpeng, Deputy Director of International Cooperation Division, Narcotics Control Bureau, Ministry of Public Security, 'Measures Implemented in China for the Prevention of Illicit Production of Synthetic Drugs and their Precursors', presentation given to the conference 'Europe-Asia - Cooperation on Synthetic Drugs and their Precursors', 6-7 March 2007.

[4] This also reflects major differences on the estimates of total drug use in the Russian Federation. A review of current estimates of the total number of drug users showed a range from 1.5 million to 6 million people (UNODC, Illicit Drug Trends in the Russian Federation, 2005).

[5] This was derived from an estimate of the total number of drug users in the Russian Federation of 2.3 million (UNODCCP, Country Profile on Drugs and Crime in the Russian Federation, 2002) and estimates of the proportion of registered opiate users among all registered drug users.

Fig. 32: Regional breakdown of opiate abusers in 2005



Sources: UNODC, Annual Reports Questionnaire Data, Government reports, reports of regional bodies, UNODC estimates.

continues to use the estimate provided by the Russian authorities for 2000/01, which suggested that there could be some 2 million opiates users[5] in the country (equivalent to 2% of the population age 15-64). Of these some 1.5 million use heroin. The number of drug abusers registered with the country's treatment institutions amounted to 343,509 in 2005 or 0.24 per cent of the country's total population. Above average use levels (0.5% to 0.7%) were reported from several provinces close to the border with Kazakhstan (Samara, Khanty-Mani, Kemerovo, Tyumen, Primorsky, Novosibirsk). High levels were also reported from Irkutsk (Far East; 0.5%), Tomsk (southern Siberia) and from Krasnodar (Caucasus region; 0.4%).[6] The country's first national survey is being planned in 2007.

In the Americas, the largest opiates market is the USA with about 1.2 million heroin users (0.6% of the population aged 15-64). This is based on estimates of chronic and casual heroin users for the year 2000. More recent estimates of overall heroin use in the USA are not available. Trend data suggest, however, that heroin use has declined since 2000. Household survey results appear to confirm this. They show that there were 380,000 heroin users in 2005 (or 0.2% of the general population age 12 and above), down from 400,000 in 2002.

Brazil is the largest opiates market in South America (600,000 people or 0.5% of the general population age

Table 4: Annual prevalence of opiates abuse, 2005

	Abuse of opiates ...		... of which abuse of heroin	
	population in million	in % of population 15-64 years	population in million	in % of population 15-64 years
EUROPE	3,860,000	0.7	3,250,000	0.6
West & Central Europe	1,420,000	0.5	1,370,000	0.4
South-East Europe	184,000	0.2	130,000	0.2
Eastern Europe	2,300,000	1.6	1,750,000	1.2
AMERICAS	2,130,000	0.4	1,480,000	0.3
North America	1,310,000	0.5	1,245,000	0.4
South America	830,000	0.3	230,000	0.1
ASIA	8,480,000	0.3	5,350,000	0.2
OCEANIA	90,000	0.4	30,000	0.1
AFRICA	980,000	0.2	980,000	0.2
GLOBAL	**15,550,000**	**0.4**	**11,090,000**	**0.3**

Above global average | Around global average | Below global average

Sources: UNODC, Annual Reports Questionnaire Data, Government reports, reports of regional bodies, UNODC estimates.

[6] Ministry of Health, quoted in UNODC, Illicit drug Trends in the Russian Federation 2005.

12-65), according to 2005 national household survey results. This market is largely linked to the use of synthetic opiates and the heroin prevalence rate is less than 0.05 per cent.

Heroin accounts for more than 70 per cent of opiates abuse

About 71 per cent of the world's 15.6 million opiates users abuse heroin. This amounts to 11 million people. The proportions, however, vary significantly by region. Whereas almost all opiates consumers in Africa reportedly use heroin, only one third consume that substance in Oceania. This particular pattern is due to difficulties in accessing heroin and the availability of synthetic opiates.

Heroin abuse in West and Central Europe has stablized at 1.4 million. In East Europe levels are higher than in West and Central Europe. Estimates of the number of heroin abusers in Europe as a whole (3.3 million people) are higher than the corresponding estimates for the Americas (1.5 million). The largest numbers of heroin abusers are found in Asia, which accounts for almost half of all heroin use worldwide (5.4 million). Asia and Europe together account for more than three quarters of the world's heroin abuse.

Injecting heroin exposes drug users to HIV/AIDS. According to the Joint United Nations Programme on HIV/AIDS, injecting drug use has contributed to HIV epidemics in India, Indonesia, the Islamic Republic of Iran, Libyan Arab Jamahiriya, Pakistan, Spain, Ukraine, Uruguay and Viet Nam. In China, Central Asia and several countries of East Europe, injecting drug use has been the most frequently cited mode of transmission of HIV in recent years.

Countries in East Africa, particularly Kenya, Mozambique and United Republic of Tanzania, have reported large increases in heroin abuse in recent years. An increase in opiate abuse has also been reported by South Africa and a number of countries in West Africa. In general, these increases are linked to greater amounts of heroin transiting these regions.

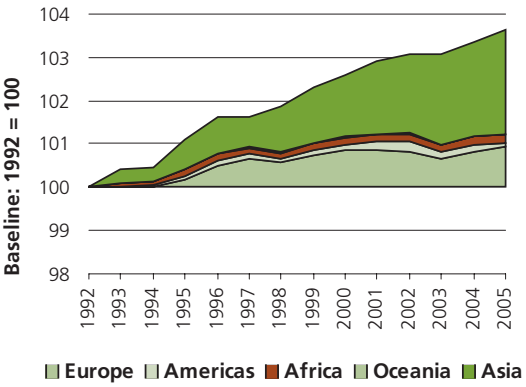
Opiate abuse continues rising in Asia, mainly among countries close to Afghanistan ...

While the new global estimate of opiate abuse (15.6 million people) is marginally lower than the one reported in last year's *World Drug Report* (15.8 million), UNODC's drug use perception indicator suggests that opiate use expanded slightly at the global level in 2005. This mainly reflects increases in opiate abuse reported from Afghanistan, Iran, Pakistan, India, the Central Asian countries, the Russian Federation and many countries in eastern and southern Africa.

… but is falling in East and South-East Asia

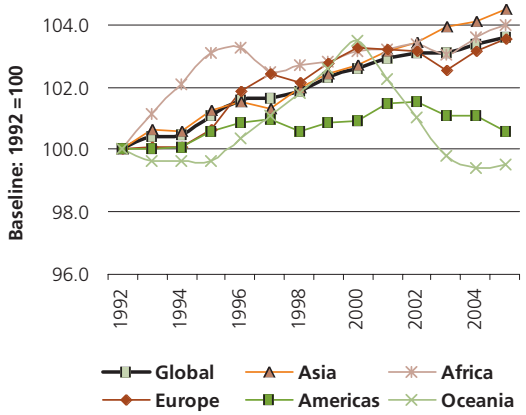
Most countries of East and South-East Asia reported declines in opiate abuse in 2005, reflecting the strong declines of opium production in Myanmar and Lao PDR. The Chinese market was reported to have been stable, as declining levels of opiates from Myanmar were offset by a rising opiate supply from Afghanistan. From 1992 to 2005, the drug use perception indicator for

Fig. 33: Composite opiate use perception trends, 1992-2005



Sources: UNODC, Annual Reports Questionnaire Data, Government reports, UNODC Field Offices, UNODC's Drug Abuse Information Network for Asia and the Pacific (DAINAP), UNODC, Global Assessment Programme on Drug Abuse (GAP), EMCDDA, CICAD, HONLEA reports and local studies.

Fig. 34: Opiate use perception trends, 1992-2005



Sources: UNODC, Annual Reports Questionnaire Data, Government reports, UNODC Field Offices, UNODC's Drug Abuse Information Network for Asia and the Pacific (DAINAP), UNODC, Global Assessment Programme on Drug Abuse (GAP), EMCDDA, CICAD, HONLEA reports and local studies.

Asia followed the global trend until the last few years, when the increase was far above the global average.

Opiate use stable to declining in West and Central Europe but rising in East Europe ...

Use of opiates remained stable or declined in the countries of West and Central Europe in 2005. It was reported to be rising, however, in East Europe (C.I.S. countries), notably the Russian Federation, as well as a few countries in south-eastern Europe along the Balkan route. This led to a small increase in the drug use perception indicator for Europe for the second year in a row. Following the opium poppy ban in Afghanistan in 2001, abuse in Europe declined until 2003 but recovered slighly to 2000 levels. Following years of strong increases in the 1990s, consumption of opiates has basically stabilized. Europe's perception trend indicator is basically in line with the global average.

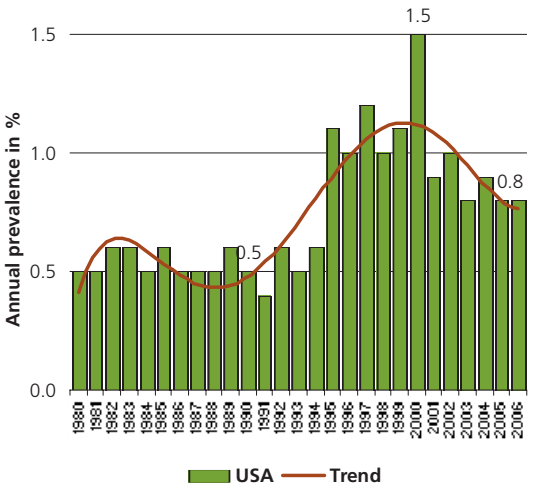
… declining in the Americas ...

The drug use perception indicator shows a small decline in opiate abuse in the Americas for 2005 and significant decline since 2001/02. This trend is also reflected in school survey results from the USA and Canada which showed that heroin use is falling subsequent to increases in the 1990s. In the USA, the annual prevalence of heroin consumption among 12th grade students declined from 1.5 per cent to 0.8 per cent between 2000 and 2005/06. Falling opium production levels in Latin America as well as in South-East Asia – the two traditional suppliers for the North American market – seem to have contributed to this.

… and in Oceania

Following strong increases in the 1990s, opiate use trends in Oceania changed direction after 2000. The trend indicator is now below the levels of a decade earlier. These trends primarily reflect the situation in Australia. The Oceania region, and notably Australia, used to have among the highest prevalence rates of opiate abuse worldwide. This changed in the early years of the new millennium, following a major heroin shortage in 2001. The so-called 'heroin drought' prompted a fall in purity levels while heroin prices rose strongly, thus squeezing large numbers of heroin users out of the market. The number of drug related deaths declined substantially. Fears that higher prices would result in more crime, and that supply-induced changes would be short-lived, never materialized. The 2004 National Drug Strategy Household Survey showed that the annual prevalence of heroin use – after having fallen drastically in 2001 - remained at the lower level in 2004.

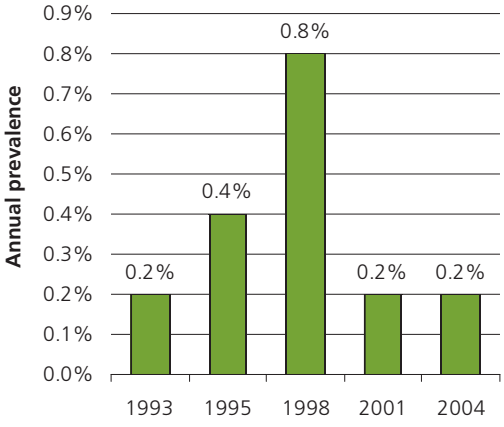
Fig. 35: Annual prevalence of heroin use among 12th graders in US high-schools, 1980-2005



Source: NIDA, Monitoring the Future, Overview of Key Findings 2005.

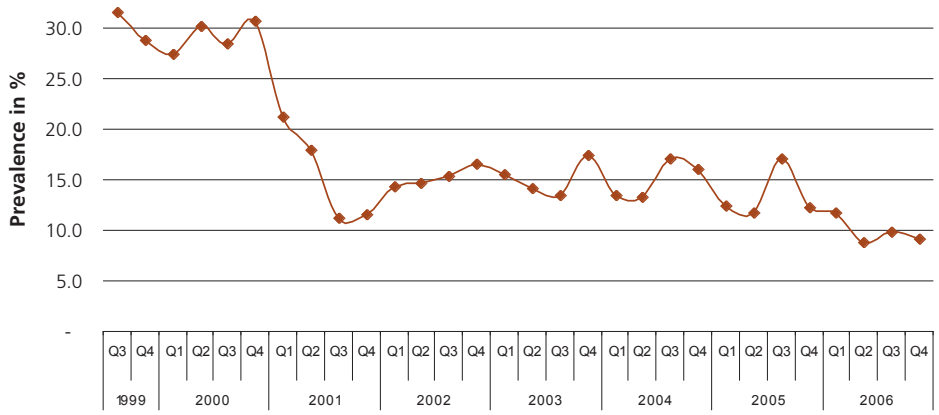
The ongoing Drug Use Monitoring in Australia project (DUMA), shows that heroin use remained at the lower level in 2005 and declined even further in 2006. Whereas in 1999 and 2000 around 30 per cent of people arrested had used heroin, in 2005 the proportion declined to 16 per cent (and to less than 10 per cent over the last two quarters of 2006).

Fig. 36: Heroin use among the general population (age 14 and above), Australia, 1993-2004



Source: AIHW, 2004 National Drug Strategy – Household Survey.

Fig. 37: Testing of arrestees for heroin abuse in Australia*



* unweighted average of results from Western Australia (East Perth), South Australia (Adelaide and Elisabeth), New South Wales (Sydney) and Queensland (Brisbane and Southport).

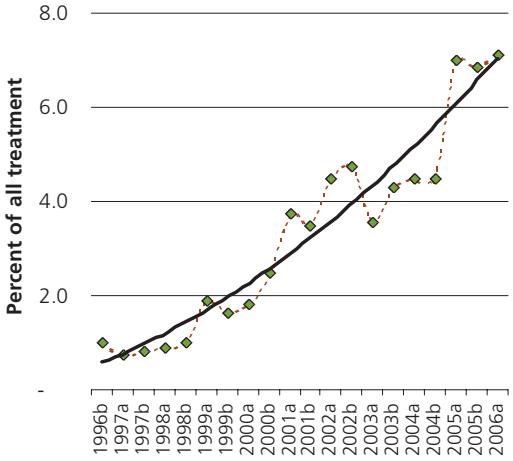
Source: Australia Institute of Criminology, Drug Use Monitoring in Australia (DUMA).

Opiate use continues rising in Africa

Opiate use continued rising in Africa, notably in countries of eastern and southern Africa. This is most likely linked to more heroin trafficking. The increase in Africa was the second highest after Asia and Africa is now slightly above the global average on the drug use perception indicator.

The upward trend over the last decade is best documented by the South African Community Epidemiology Network on Drug Use (SACENDU). Heroin accounted for less than 1 per cent of treatment demand (including alcohol) in 1996. By the first two quarters of 2006 this proportion increased to 7 per cent. Over the last few years, there has been a large increase in treatment admissions for heroin as the primary drug of abuse in the Western Cape region (Cape Town), Gauteng (Pretoria and Johannesburg), Mpulanga and KwaZulu-Natal (Durban, Pietermaritzburg). Preliminary data for the third and fourth quarters of 2006 suggest that the increase was particularly pronounced in Gauteng and in KwaZulu-Natal. Heroin is mostly smoked in South Africa. However, of patients with heroin as the primary drug of abuse in Western Cape, Mpuglanga and Gauteng, 11 per cent, 33 per cent and 42 per cent, respectively, reported injecting it in the second half of 2006.[7]

Fig. 38: South Africa – heroin as primary drug in treatment demand*, 1996-2006

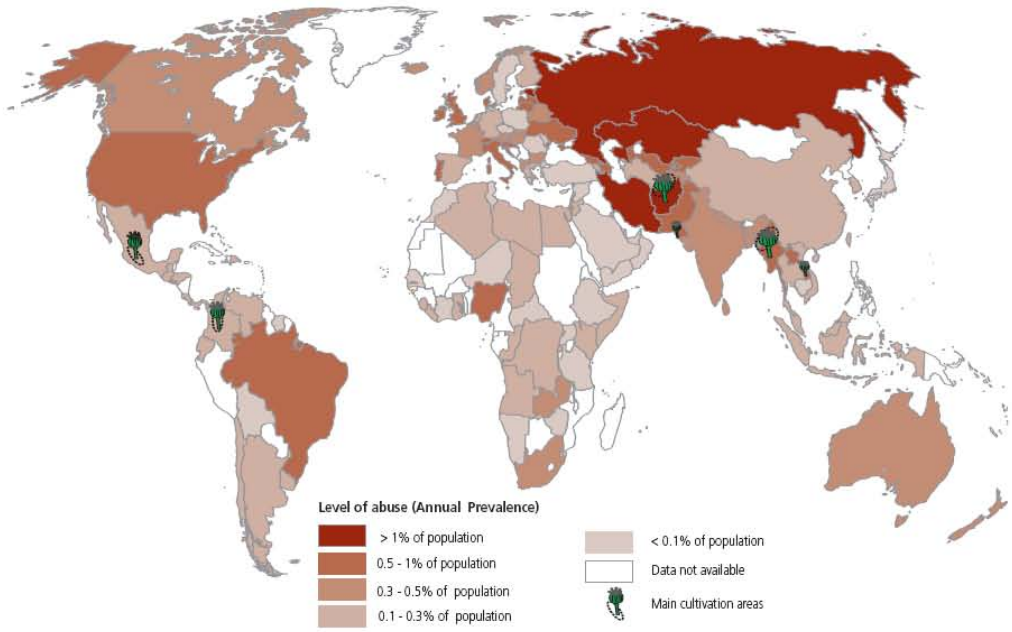


* unweighted average of treatment (incl. alcohol) in 6 provinces.

Source: SACENDU, Research Brief, Vol. 9 (2), 2006.

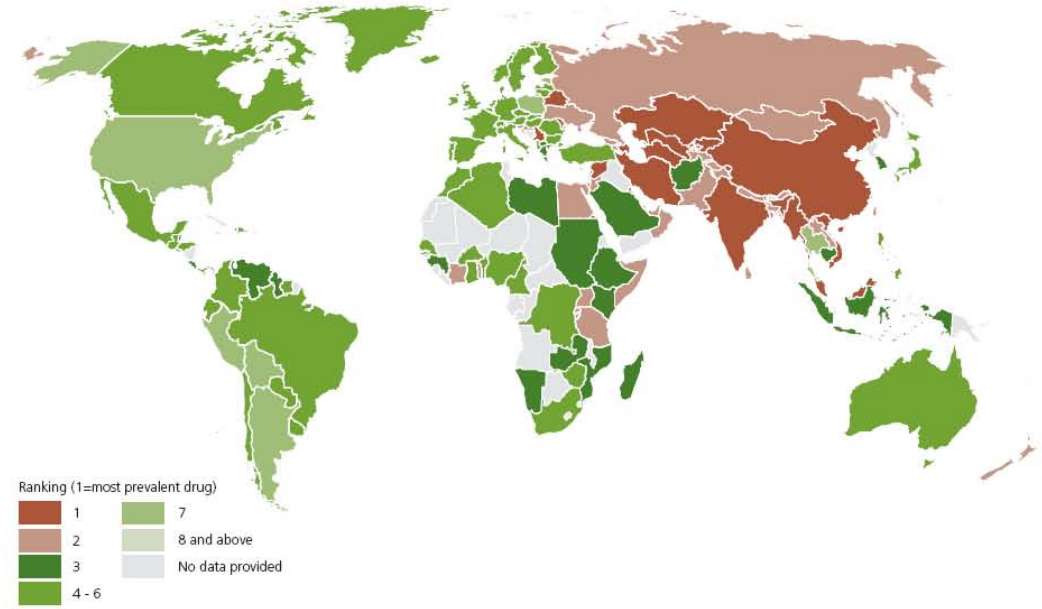
7 SACENDU, Update, 25 May 2007.

Map 6: Abuse of opiates (including heroin), 2005 (or latest year available)



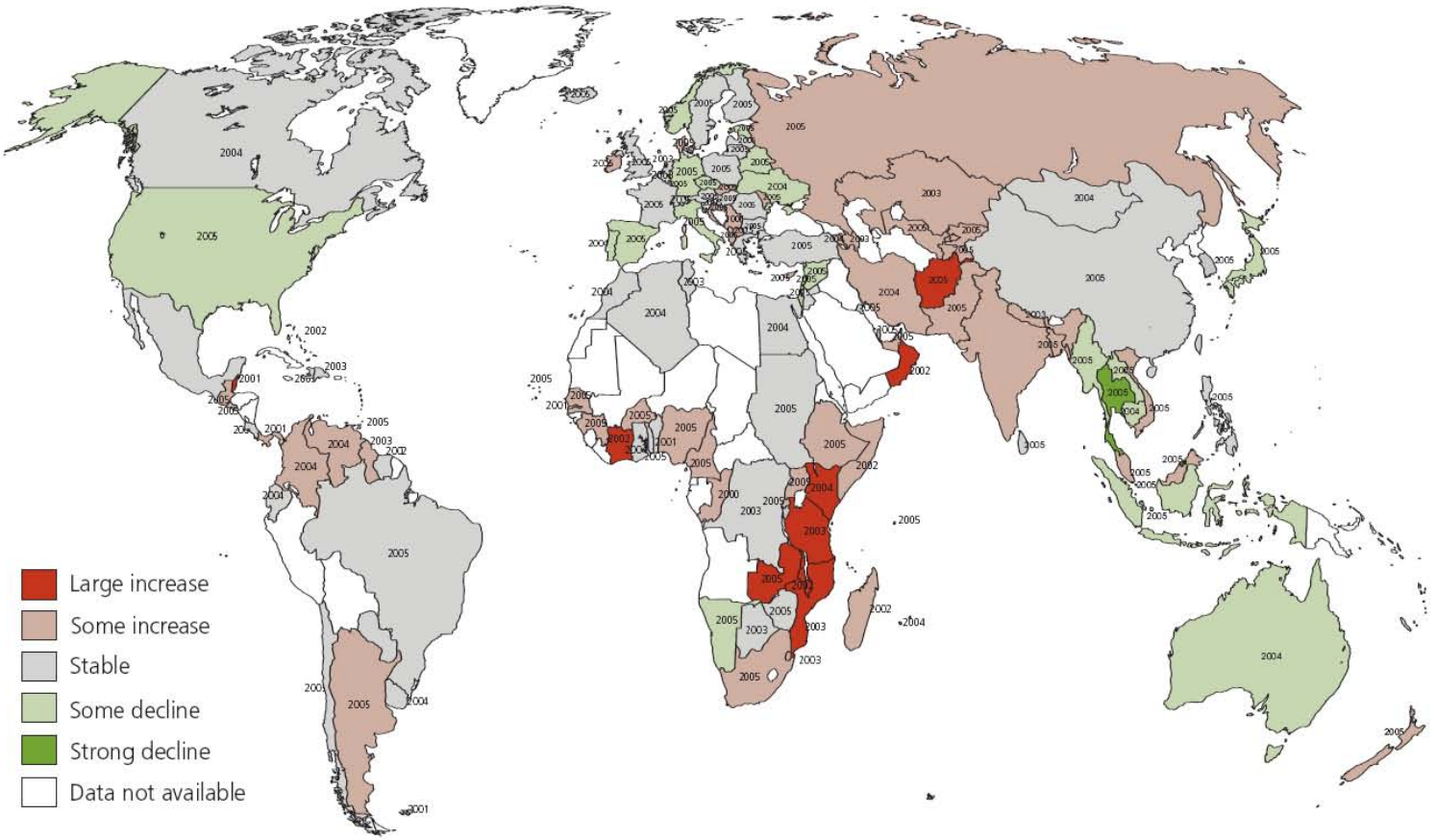
Sources: UNODC Annual Reports Questionnaires (ARQ) data/DELTA; Government Reports, US Department of State; European Monitoring Centre for Drugs and Drug Addiction (EMCDDA); Drug Abuse Information Network for Asia and the Pacific (DAINAP); UNODC Global Assessment Programme on Drug Abuse (GAP), Inter-American Drug Abuse Control Commission (CICAD), UNODC Data for Africa Project.

Map 7: Ranking of opiates (including heroin) in order of prevalence, 2004 - 2006



Sources: UNODC Annual Reports Questionnaires data, SAMSHA US National Household Survey on Drug Abuse, Iranian Ministry of Health, Rapid Assessement Study and UNODC ARQ,Council of Europe, ESPAD.

Map 8: Changes in the use of heroin and other opiates, 2005 (or latest year available)



*Sources: UNODC Annual Reports Questionnaires data, National Household Surveys submitted to UNODC, United States Department of State (Bureau for International Narcotics and Law Enforcement Affairs), International Narcotics Control Strategy Report, Law Enforcement Reports, SACENDU (South African Community Epidemiology Network, UNODC, Meetings of Heads of Law Enforcement Agencies (HONLEA), UNODC Opium Surveys, Drug Abuse Information Network for Asia and the Pacific (DAINAP), UNODC Global Assessment Programme on Drug Abuse (GAP), UNODC Data for Africa Project.

1.3 Coca / Cocaine Market

1.3.1 Summary trend overview

The global cocaine market is largely stable with indicators on both the supply and demand side holding, more or less, at the levels of previous years. The global area under coca cultivation fell by 29 per cent to some 157,000 hectares between 2000-2006, reflecting a strong decline (-52 per cent) of coca cultivation in Colombia – due to large-scale eradication. The areas under coca cultivation in Peru and Bolivia increased over this period but remained significantly below the levels reported a decade earlier (-45 per cent for Peru and Bolivia over the 1995-2006 period).

Though contained, there are indications that the supply side of this market remains adaptive. The success in the reduction of coca cultivation from 2000 to 2005 did not lead to a decline in cocaine production. In recent years, the use of fertilizers and pesticides, and the refinement of knowledge and skill in processing the leaf, have improved coca yields, leaving cocaine production largely stable. In 2006, the area under coca cultivation in Bolivia, Colombia and Peru amounted to 156,900 ha, a 2 per cent contraction over 2005. The overall production of cocaine also remained largely unchanged at 984 mt in 2006.

With the supply side of the market largely stable, there are encouraging signs that progress is being made in reducing supply through interdiction. Seizures of cocaine continue to remain high. Overall, the interception rate rose from 24 per cent in 2000 to 42 per cent in 2006. Improved cooperation among law enforcement bodies in and across countries appears to have led to an increase in seizures in and around the producer countries. In fact, 50 per cent of global cocaine seizures took place in South America (including the Caribbean and Central America) in 2005. North America and Western and Central Europe, the two main cocaine consumption regions, also continued to seize large amounts of the drug (28 per cent and 14 per cent of global seizures respectively).The world's largest cocaine seizures in 2005 were, once again, made by Colombia, followed by the USA, Venezuela, Spain, Ecuador and Mexico. The bulk of cocaine enters the USA via Mexico. In terms of trafficking organisations, there seems to have been a shift from Colombian towards Mexican organized crime groups, which now dominate the wholesale trade to the United States.

The distribution patterns within this market continue to evolve. Cocaine is trafficked to Europe via the Caribbean and, increasingly, via Africa. Over the 2000-2005 period the largest increases in cocaine seizures were reported by countries in Africa and West and Central Europe. In both regions, cocaine seizures almost quadrupled over the 2000-2005 period. This highlights the relevance of closely monitoring the new consumer markets and transit routes as they develop. The largest cocaine seizures in Europe in 2005 were made by Spain, followed by Portugal and the Netherlands, reflecting both strong national law enforcement activities and the increase in trafficking towards these countries – which contain vibrant consumer markets and which are the main entry points of cocaine into the European Union.

Similarly, rising levels of seizures in Africa reflect the fact that this continent, notably countries along the Gulf of Guinea and off the coast of Cape Verde, is increasingly being used as a transhipment point for cocaine from South America to markets in western Europe.

The global consumer market for cocaine is estimated at 14 million people. While the consumer demand in North America has ceased to expand, cocaine is making worrying inroads into new and growing markets. Consumption increased significantly in Europe, doubling or tripling in several countries over the last decade. In Africa, notably in the countries of West Africa, cocaine use has also increased. Overall cocaine consumption levels in Europe are still significantly lower than in North America. However, Spain recently reported that, for the first time, cocaine annual prevalence levels exceeded those of the USA in 2005. High and rising levels of cocaine use have also been reported from the UK and Italy.

Increases in cocaine use have been reported from a number of countries in South America, Central America and the Caribbean, reflecting the growth of consumer markets along the distribution chain. These increases must be monitored carefully with a view to halting any further increase on both the supply and the demand sides.

Cocaine use levels in Asia and in eastern Europe are still very low. The price to income ratio in these countries is very high and, although this may have suppressed demand slightly in the past, increases have been reported in some of these markets as well. Taking into account some of the trends in these new markets an ongoing geographical spread in the use of cocaine is clearly identifiable. However, one thing that has changed is that the number of countries showing rising levels of cocaine use has indeed fallen from 62 per cent of all reporting countries in 2000 to 40 per cent in 2005, and the number of countries reporting stable or declining cocaine use levels has increased.

1.3.2 Production

Table 5: Global illicit cultivation of coca bush and production of cocaine

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
CULTIVATION[a] OF COCA BUSH IN HECTARES																	
Bolivia [b]	50,300	47,900	45,300	47,200	48,100	48,600	48,100	45,800	38,000	21,800	14,600	19,900	21,600	23,600	27,700	25,400	27,500
Colombia [c]	40,100	37,500	37,100	39,700	44,700	50,900	67,200	79,400	101,800	160,100	163,300	144,800	102,000	86,000	80,000	86,000	78,000
Peru [d]	121,300	120,800	129,100	108,800	108,600	115,300	94,400	68,800	51,000	38,700	43,400	46,200	46,700	44,200	50,300	48,200	51,400
Total	**211,700**	**206,200**	**211,500**	**195,700**	**201,400**	**214,800**	**209,700**	**194,000**	**190,800**	**220,600**	**221,300**	**210,900**	**170,300**	**153,800**	**158,000**	**159,600**	**156,900**
POTENTIAL PRODUCTION OF DRY COCA LEAF IN METRIC TONS[e]																	
Bolivia	77,000	78,000	80,300	84,400	89,800	85,000	75,100	70,100	52,900	22,800	13,400	20,200	19,800	27,800	38,000	28,200	33,200
Colombia	45,300	45,000	44,900	45,300	67,500	80,900	108,900	129,500	165,900	261,000	266,200	236,000	222,100	186,054	164,280	164,280	154,130
Peru	196,900	222,700	223,900	155,500	165,300	183,600	174,700	130,600	95,600	69,200	46,200	49,300	52,500	72,800	101,000	97,000	105,100
Total	**319,200**	**345,700**	**349,100**	**285,200**	**322,600**	**349,500**	**358,700**	**330,200**	**314,400**	**353,000**	**325,800**	**305,500**	**294,400**	**286,654**	**303,280**	**289,480**	**292,430**
POTENTIAL MANUFACTURE[f] OF COCAINE IN METRIC TONS																	
Bolivia	189	220	225	240	255	240	215	200	150	70	43	60	60	79	98	80	94
Colombia	92	88	91	119	201	230	300	350	435	680	695	617	580	550	640	640	610
Peru [g]	492	525	550	410	435	460	435	325	240	175	141	150	160	230	270	260	280
Total	**774**	**833**	**866**	**769**	**891**	**930**	**950**	**875**	**825**	**925**	**879**	**827**	**800**	**859**	**1,008**	**980**	**984**

(a) Potentially harvestable, after eradication

(b) Sources: 1990-2002: CICAD and US Department of State, International Narcotics Control Strategy Report; 2003-2006: National Illicit Crop Monitoring System supported by UNODC.

(c) Sources: 1990-1998: CICAD and US Department of State, International Narcotics Control Strategy Report; 1999-2006: National Illicit Crop Monitoring System supported by UNODC.

(d) Sources: 1990-1999: CICAD and US Department of State, International Narcotics Control Strategy Report; 2000-2006: National Illicit Crop Monitoring System supported by UNODC.

(e) Refers to the potential dry coca leaf production available for cocaine production, i. e. after deducting the amount, which govern ments report as being used for traditional or other purposes allowed under national law. In the absence of a standard definition of "dry coca leaf" and given considerable differences in the processing of the fresh coca leaf harvested, the figures may not always be comparable across countries.

(f) Amounts of cocaine that could be manufactured from locally produced coca leaf (due to imports and exports actual amounts of cocaine manufactured in a country can differ).

(g) Figures from 2003 to 2005 were revised based on updated information available on the amount of coca leaf necessary to produce one kg of cocaine HCl, at 100% purity.

Global cultivation of coca remained essentially stable in 2006 …

In 2006, the area under coca cultivation in Bolivia, Colombia and Peru amounted to 156,900 ha. While this represents a small decline of 2 per cent compared to 2005, the decrease in Colombia was almost entirely offset by increases in Bolivia and Peru. The cultivation estimates show that the global area under coca has been essentially stable since 2003. However, global coca cultivation continues to be lower than in any year of the 1990s and 29 per cent below the level recorded in 2000 (221,300 ha).

Colombia remained the country with the world's largest coca cultivation, which represented half of the global area under coca bush. Coca cultivation in Colombia declined by 9 per cent from 86,000 ha in 2005 to 78,000 ha in 2006. Overall, despite the fluctuations in recent years, coca cultivation in Colombia has proven to be relatively stable since 2003.

In Peru, however, coca cultivation increased by 7 per cent to 51,400 ha. Despite this increase, cultivation remained well below the levels registered in the mid-1990s, when Peru was the world's largest cultivator. Peru is now the second largest coca cultivating country behind Colombia, and accounted for one third of global cultivation in 2006.

Bolivia, the third largest producer of coca leaf, still trails far behind Colombia, and accounted for only 18 per cent of global coca cultivation. Similar to Peru, the area under coca in Bolivia increased by 8 per cent compared to 2005, and reached 27,500 ha in 2006, which is almost as high as the level reached in 2004.

There are no indications of large-scale coca cultivation outside the three main coca growing countries. Coca cultivation in neighbouring countries such as Ecuador and Venezuela is thought to be marginal.

… leaving the level of potential cocaine production largely unchanged …

The overall potential production of cocaine reached 984 mt in 2006, about the same as a year earlier, with levels amounting to 610 mt in Colombia, 280 mt in Peru and 94 mt in Bolivia. Potential production is practically unchanged from the levels of a decade ago.

… while farm-gate prices for coca products decreased in most areas

In Peru, farm-gate prices for sun-dried coca leaf declined from a national average of US$ 2.9/kg in 2005 to only US$ 2.5/kg in 2006. The monthly average prices for sun-dried coca leaf at the farm-gate in 2006 remained in the price range of US$ 2-3/kg observed since 2001.

In Bolivia, farm-gate prices for sun-dried coca leaf fell below the already low prices of 2005 and remained at an average of US$ 3.9/kg well below the price level of over US$ 5/kg between 2000 and 2004. Coca leaf prices in Bolivia continued to be considerably higher than in neighbouring Peru.

In Colombia, the yearly average price for coca paste amounted to US$ 879/kg, and US$ 1,762/kg for cocaine HCI. Farm-gate prices for coca paste, which had fallen to pre-2001 levels at the start of 2006 (US$750/kg) recovered during the year and reached a new high of over (US$ 1,010/kg) in December 2006.

Most clandestine laboratories for cocaine HCl are located in South America

In 2005, governments reported the destruction of 5,737 clandestine coca processing laboratories (excluding coca maceration pits), a four-fold increase since 2000, when only 1,314 laboratories were dismantled. In addition to clandestine laboratories, large numbers of coca maceration pits were destroyed in Bolivia and Peru.

Over 99 per cent of all dismantled clandestine laboratories in 2005 were in Bolivia, Colombia and Peru. This shows that almost the complete cocaine production chain, from coca paste to cocaine base and finally cocaine HCl, is located close to the cultivation areas in the three countries. An analysis by type of laboratory reveals that laboratories in Bolivia and Peru, with very few exceptions, produced coca paste and cocaine base, whereas in Colombia a substantial number of laboratories produced cocaine HCl. Preliminary figures for 2006 show a similar pattern.

The discovery of clandestine cocaine laboratories outside the coca cultivating countries demonstrates that a small amount of cocaine is produced in other countries as well. However, a large majority of the 210 clandestine cocaine laboratories destroyed worldwide in 2005 were located in Colombia (163), a further 33 in other South American countries, and only 14 in other parts of the world, such as Spain (11), France, South Africa and the United States of America (one each).

During 2005, Colombia's role as the major cocaine producing country was further demonstrated by the fact that the largest seizures of potassium permanganate, a precursor chemical necessary for the production of cocaine HCl, took place in Colombia (141 mt). Given the small amount of clandestine potassium permanganate laboratories discovered in Colombia in 2005, it is unlikely that all the potassium permanganate needed to produce cocaine originates from sources within Colombia. However, no seizures of any significance have been reported in ports of entry into the country and little is known about the sources and routes of the potassium permanganate smuggling into Colombia.

Fig. 39: Global coca bush cultivation (hectares), 1990 to 2006

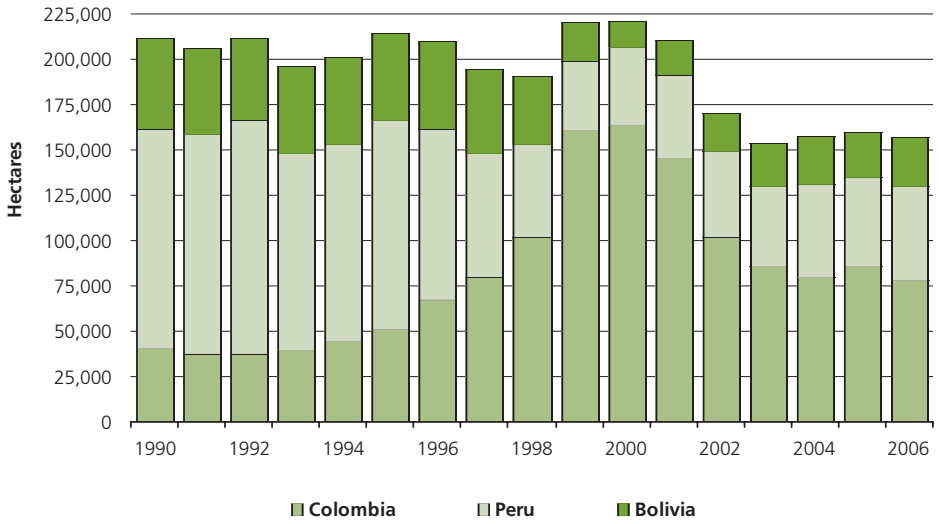
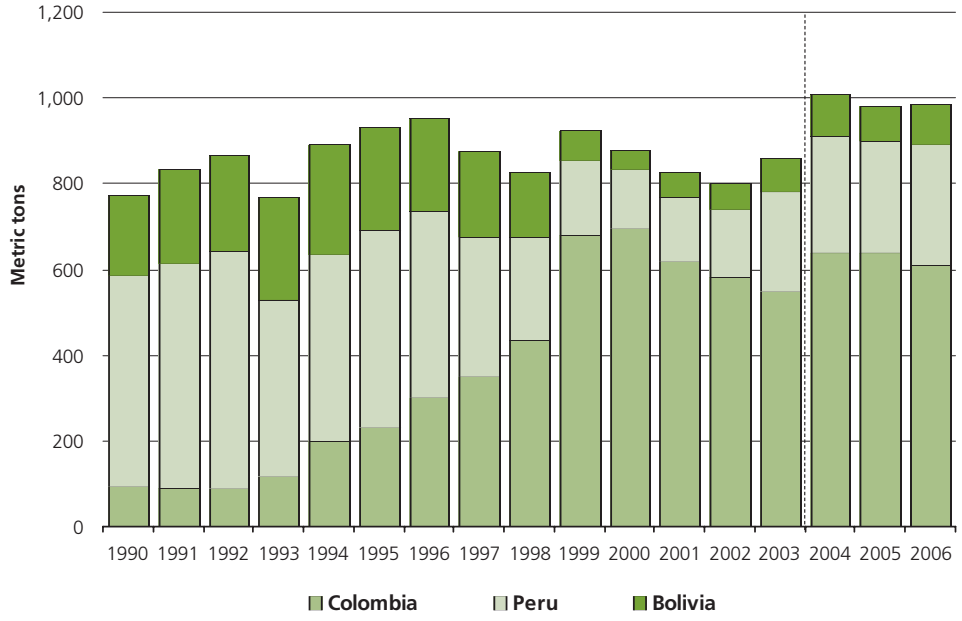
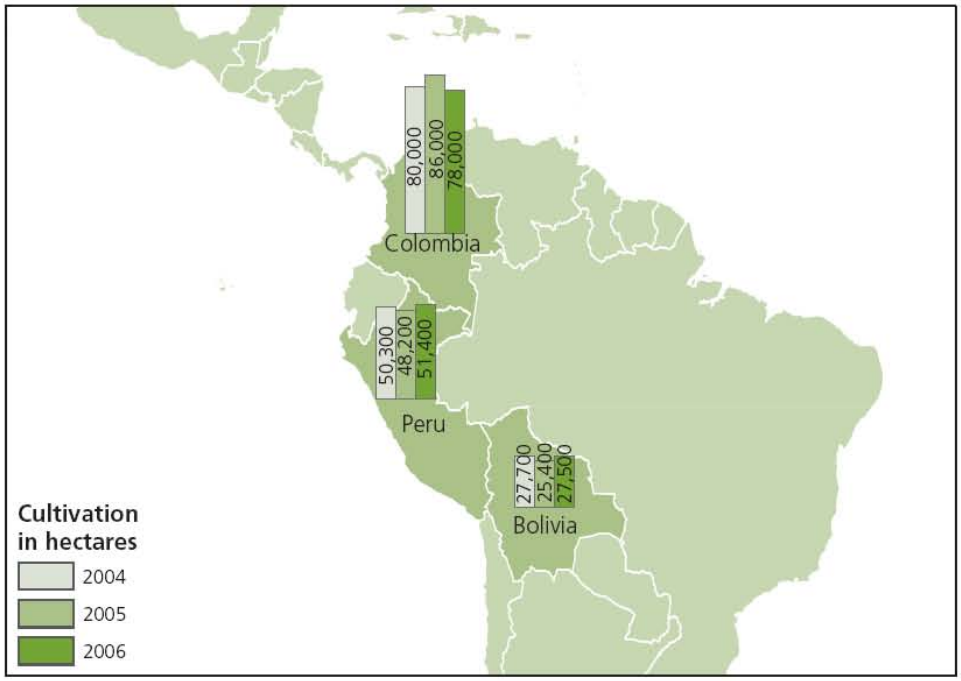


Fig. 40: Global cocaine production (metric tons), 1990 to 2006



Note: Colombian cocaine production estimates for 2004 and later are not directly comparable with previous years.

Map. 9: Coca bush cultivation, 2004 - 2006



Map. 10: Potential cocaine production, 2004 - 2006

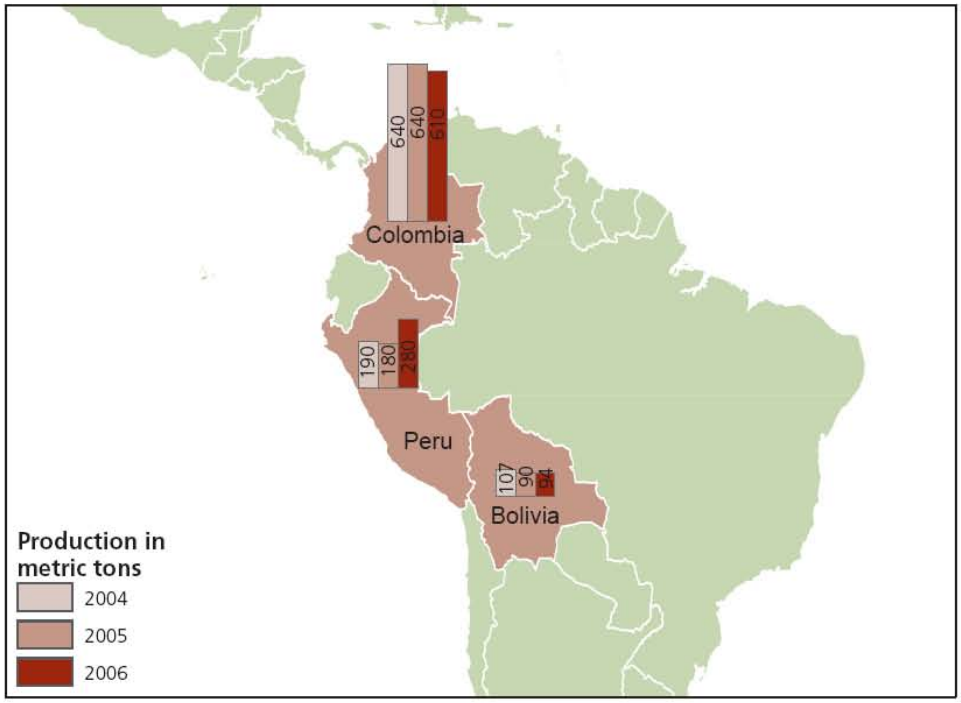
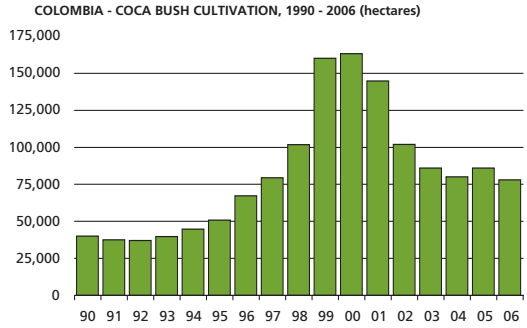
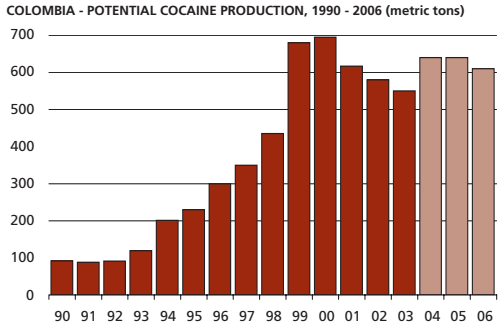
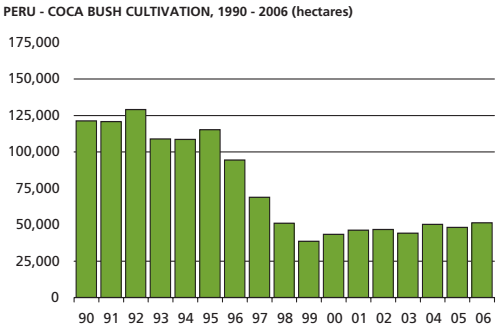


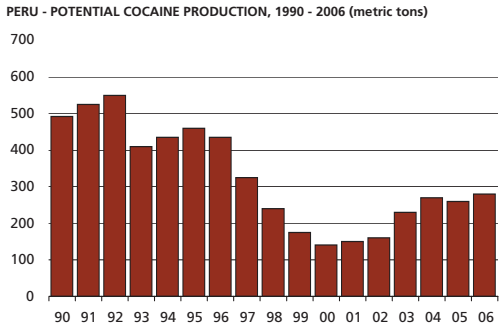
Fig. 41: Annual coca bush cultivation and cocaine production in main producing countries, 1990 - 2006

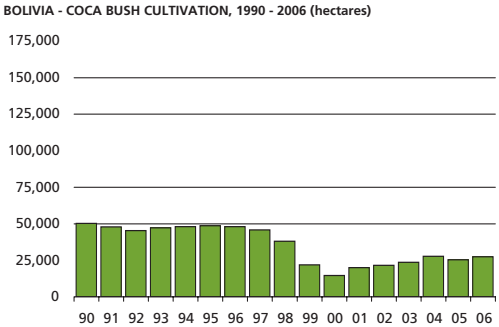




Estimates for Colombia for 1999 and subsequent years come from the national monitoring system established by the Colombian government with the support of UNODC. Due to the change of methodology, figures for 1999 and after cannot be directly compared with data from previous years. Production data for 2004 to 2006 is based on new field research in Colombia.







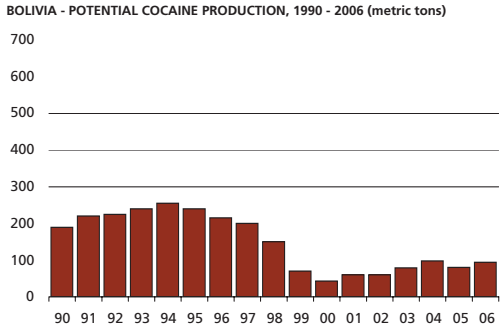


Fig. 42: Coca bush cultivation (in per cent of global total)

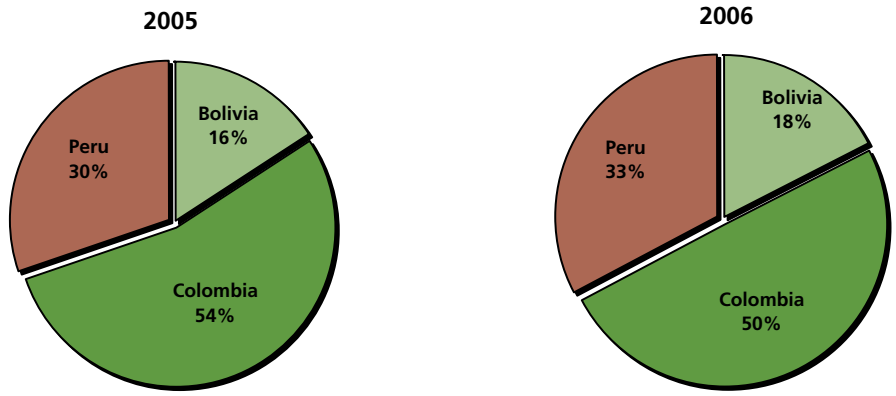


Fig. 43: Potential cocaine production

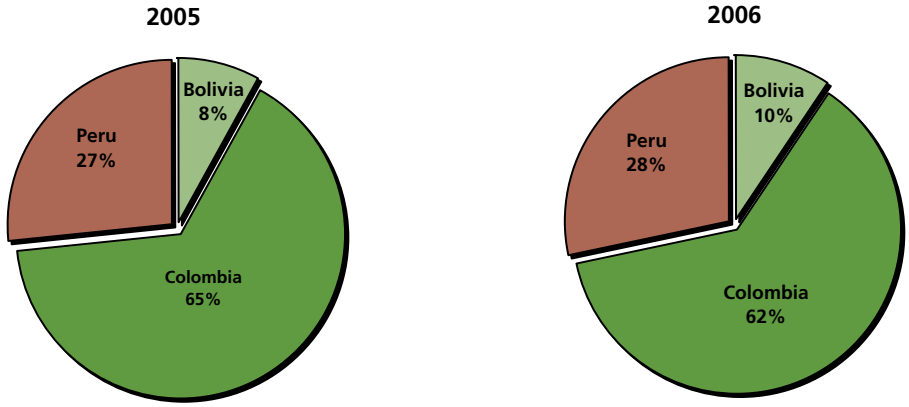


Table 6: Reported cumulative eradication of coca bush (ha), 1994 - 2006

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Bolivia	1,100	5,493	7,512	7,000	11,620	15,353	7,653	9,395	11,839	10,089	8,437	6,073	5,070
Colombia	4,904	25,402	22,576	44,123	69,155	44,158	61,568	95,897	153,126	137,033	142,786	170,752	213,371
Peru	-	-	1,259	3,462	7,834	14,733	6,208	6,436	7,134	11,312	10,399	12,237	12,688
Ecuador	-	-	-	-	-	-	-	-	-	-	-	17	-
Venezuela	-	-	-	-	-	-	-	-	-	-	118	40	0

1.3.3 Trafficking

Global seizures of cocaine rose to another record high in 2005…

In 2005, cocaine seizures increased to 756 mt (street purity), which is the highest figure ever recorded, and a 30 per cent increase on the previous year. The increase is largely the result of better cooperation among law enforcement services and improved sharing of intelligence, frequently enabling seizures prior to the drugs arriving in the final destination countries.

… leading to a new record in global cocaine interception…

As a result, the global cocaine interception rate rose from 34 per cent in 2004 to 42 per cent in 2005[1], a significant increase from 20 per cent in 1995. However, yields and laboratory efficiency appear to have increased over the last few years and this may not yet be fully reflected in the current global cocaine production estimates. The result could be an overestimated global cocaine interception rate. While some adjustments in production figures may be expected in the future, there is little doubt that cocaine interception rates grew strongly in recent years.

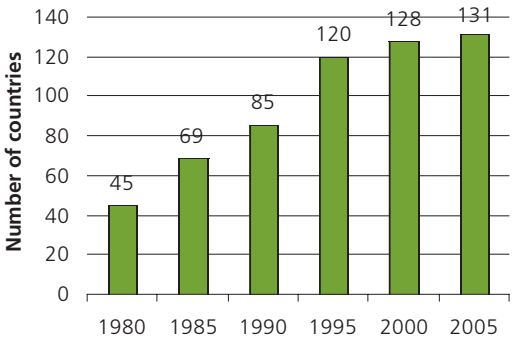
… while cocaine trafficking continues to spread in geographical terms

At the same time, there has been a geographical spread of cocaine trafficking. In 2005, 131 countries reported seizures of cocaine from 69 countries two decades earlier; now nearly 80 per cent of all countries reporting drug seizures report some seizures of cocaine. This suggests that trafficking in cocaine is developing into a global phenomenon, affecting all regions.

Cocaine seizures remain concentrated in the Americas …

There is still a strong concentration of cocaine seizures in the Americas (85 per cent). South America, where all of the coca leaf originates and most of the cocaine is produced, accounted for 51 per cent of global seizures,

Fig. 44: Spread of cocaine trafficking: Number of countries reporting cocaine seizures



Source: UNODC, Annual Reports Questionnaire Data / DELTA.

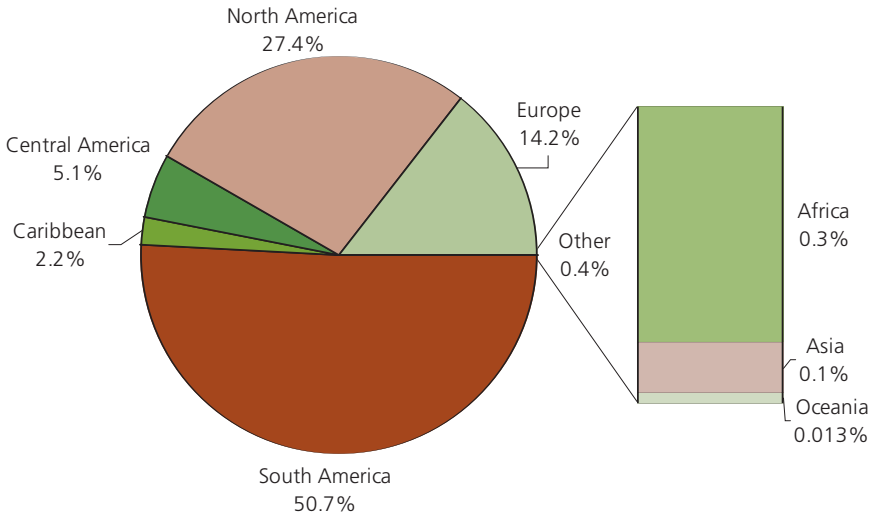
with North America, the world's largest cocaine market, accounting for 27 per cent. Central America and the Caribbean, which are major transit regions, accounted for 7 per cent of global seizures. The only large market outside of the Americas is Europe, where 14 per cent of global cocaine seizures were made, 99 per cent of which were made in West and Central Europe. The rest of the world was responsible for less than 1 per cent of global seizures, mostly reported by countries in Africa.

Seizures are rising in South America…

Over the last few years, the increase of global cocaine seizures was particularly pronounced in South America, where a rise was noted not only in absolute, but also in relative terms. The proportion of cocaine seizures made in South America (excluding the Caribbean and Central America) rose from 38 per cent in 1990, to 44 per cent in 2000 and 51 per cent in 2005. This clearly reflects the growing efforts by producing countries and their neighbours to step up interdiction at, and close to, the source.

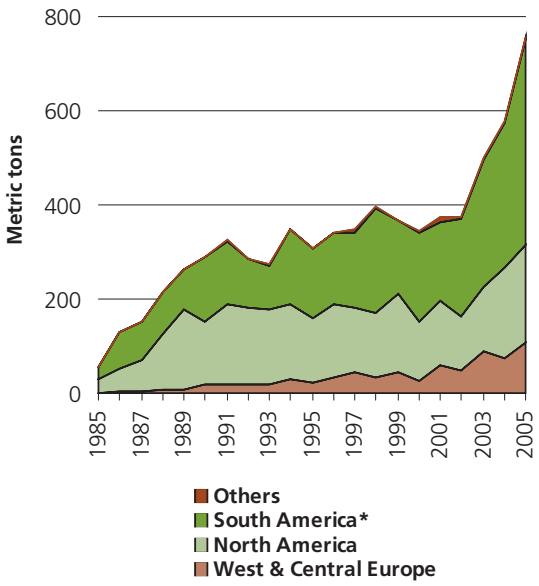
[1] The global interception rate was calculated on the basis of a global cocaine production of 980 mt in 2005 and global seizures of 756 mt at street purity, which, given a global average cocaine purity of 55 per cent in 2005 (as reported by Member States to UNODC in the Annual Reports Questionnaires), would be equivalent to pure cocaine seizures of some 416 mt.

Fig. 45: Distribution of global cocaine seizures in 2005 (N = 756 mt)



Source: UNODC, Annual Reports Questionnaire Data / DELTA.

Fig. 46: Global cocaine seizures[a], regional breakdown, 1985-2005



* South America including Caribbean and Central America

[a] as reported, at street purity levels

Source: UNODC, Annual Reports Questionnaire Data / DELTA.

… as well as in Europe

Europe's share in global cocaine seizures rose strongly from less than 3 per cent in 1980, to 8 per cent in 2000 and 14 per cent in 2005. This reflects the rapidly growing trafficking flows and the spread of cocaine use in Europe.

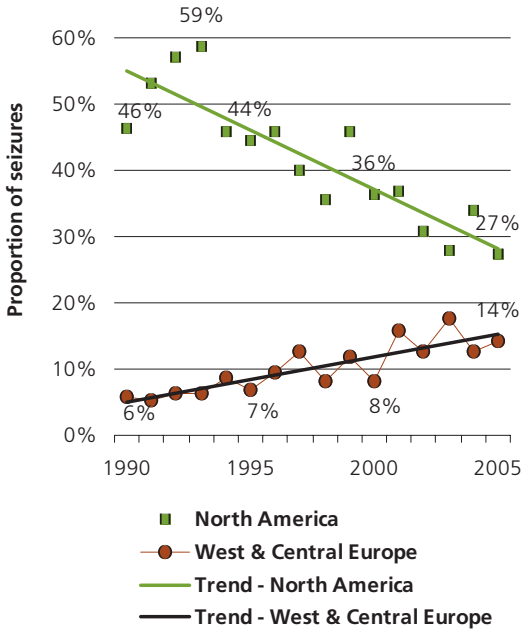
The North American share of global seizures is declining …

In contrast, the proportion of seizures made in North America declined, from 46 per cent in 1990, to 36 per cent in 2000 and 27 per cent in 2005. This reflected a stabilization or decline in the domestic market, as well as efforts to strengthen interdiction capacities in the source and transit countries.

… and is reflected in student surveys on cocaine availability in the USA

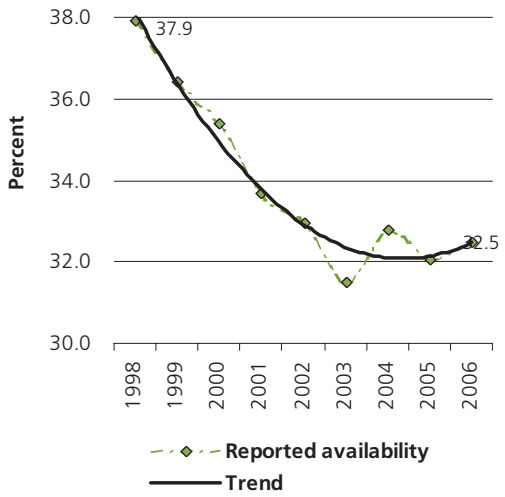
Increased interdiction efforts in the main drug transit countries and in North America, have had an impact on cocaine availability within the USA. The availability of cocaine, as perceived by students, declined between 1998 and 2006, as 38 per cent of the students had found it 'easy' or 'fairly easy' to obtain cocaine in 1998, but only 33 per cent in 2006. Over the last few years, perceived availability fluctuated but basically remained

Fig. 47: Proportion of global seizures made in North America and in West and Central Europe



Source: UNODC, Annual Reports Questionnaire Data / DELTA.

Fig. 48: Perceived availability of cocaine among US high school students, 1998-2006 (unweighted average of 8th, 10th and 12th grade students reporting that it is 'fairly easy' or 'very easy' to obtain cocaine powder)



Source: NIDA, Monitoring the Future

stable. In Europe, however, all indicators point to increasing cocaine availability.

The largest seizures remain concentrated in a few countries

While an increasing number of countries report on cocaine seizures, the largest amounts are still seized in a limited number of countries. Only five countries accounted for 72 per cent of the global cocaine seizures in 2005.

For the fourth year in a row, Colombia topped the ranking of the world's largest cocaine seizures. It seized 217 mt of cocaine hydrochloride (HCl) and cocaine base in 2005, equivalent to 29 per cent of the world total and an increase from 19 per cent in 1995. Seizures in Colombia increased by 16 per cent from a year earlier, representing the highest cocaine seizures ever reported by a country. In 2005, the interception rate [2] of cocaine produced in Colombia rose to 29 per cent, up from 25 per cent in 2004 and 13 per cent in 2000, clearly reflecting continued enforcement efforts in the country.

The USA recorded the world's second largest cocaine seizures with 175 mt. Over the last two decades, the USA has ranked second six times, but has been in the first place fourteen times. US cocaine seizures rose by 5 per cent in 2005. However, the US share in global cocaine seizures has been declining steadily from 46 per cent in 1985 to 23 per cent in 2005.

The third largest cocaine seizures were reported by Venezuela (59 mt or 8 per cent), up 88 per cent from the previous year, ranking Venezuela third globally for the second time. These seizures are a consequence of the long common border with Colombia as well as intensified efforts in both countries.

The fourth largest seizures were carried out by Spain, 48 mt or 6.5 per cent, which is a 46 per cent increase since 2004. Spain has recorded either the world's third or fourth largest annual cocaine seizures since 2001. It has also consistently recorded Europe's largest cocaine seizures for the last two decades.

For the first time, the world's fifth largest cocaine seizures in 2005 were reported by Ecuador, Colombia's southern neighbour, with 43 mt (or 6 per cent of global seizures), representing a nine-fold increase in a year. This remarkable increase can be linked to first results of an international container control project, supported by UNODC and WCO, in which Ecuador participated. Indications that Ecuador could be a major trans-shipment country thus received some confirmation.

[2] The interception rate of the cocaine seized in Colombia was calculated on the basis of domestic cocaine production and an average purity level of cocaine of around 85 per cent.

Seizures in sixth place onwards were reported by: Mexico (30 mt), the main direct transit country for cocaine entering the USA; Peru (22 mt), the second largest cocaine producer worldwide; Panama (18 mt), the third main outlet of cocaine produced in Colombia; Portugal (18 mt); Brazil (16 mt); the Netherlands (14 mt); Bolivia (12 mt), the world's third largest cocaine producer; and, Belgium (9 mt).

The main trafficking route still runs from the Andean region to North America

Frequently quoted estimates among enforcement agencies suggest that currently some 450 mt of cocaine (at street purity) are destined for the markets in North America and 250 mt of cocaine (at street purity) for the markets in Europe.[3] Far smaller amounts actually arrive in these markets and are sold to the final cocaine consumers, as almost half is seized or lost in transit.

The world's main cocaine trafficking routes continue to run from the Andean region, notably Colombia, to the USA. More than half of Colombia's seizures take place in the ports or at sea (56 per cent in 2005); 63 per cent of the maritime seizures on the Pacific coast and 37 per cent on the Atlantic coast[4]. In 2005, increasing amounts appear to have left Colombia via Venezuela and Ecuador. According to the US Interagency Assessment of Cocaine Movement, half of the cocaine trafficked towards the USA in 2005 transited the eastern Pacific, whereas 38 per cent was trafficked through the western Caribbean vector (i.e. along the coast of Central American countries).

The main intermediate country of cocaine shipments to North America is Mexico. The Mexican authorities have intensified their interdiction efforts, resulting in cocaine seizures more than doubling, from 13 mt in 2002 to 30 mt in 2005.[5] However, drug-related violence has also increased, with some 2000-2500 drug-related homicides in 2006[6].

According to Mexican sources, about 60 per cent of the cocaine is trafficked to Mexico by sea, with another 28 per cent by land from Central America (Guatemala and Belize) and 12 per cent by air. Important entry points of cocaine into Mexico are the Pacific region and the Yukatan peninsula on the Atlantic coast from where it is usually transported north by land. While the most voluminous cocaine shipments are transported by sea, most seizures in terms of cases, are on land.[7] About 90 per cent of the cocaine is destined for the USA, though close to 10 per cent is apparently destined for Europe, which is a new development.[8]

The US authorities estimate that between 74 per cent[9] and 90 per cent[10] of the cocaine which enters the coun-

Table 7: Cocaine Seizures in the US Arrival Zones, 2000-2005

Arrival Zone Area	2000	2001	2002	2003	2004	2005
Southwest Border (in metric mt)	23	20	23	15	20	23
Southwest Border (in per cent)	53 %	54%	68%	47%	57%	74%
U.S. East Coast	33%	30%	26%	28%	14%	13%
Puerto Rico/U.S. Virgin Islands	14%	16%	6%	25%	20%	13%
Other	0%	0%	0%	0%	9%	0%

Source: Interagency Assessment of Cocaine Movement, quoted in National Drug Intelligence Center, National Drug Threat Assessment 2007

[3] Direction Centrale de la Police Judiciaire / Police Nationale, 'The Traffic of Cocaine through the Maritime Channel in 2006', presentation given by the French delegation to the Commission on Narcotic Drugs, 12-16 March 2007. A 250 mt figure of cocaine destined for Europe has also been repeatedly quoted by Europol as an estimate. The actual amounts available for consumption are, however, substantially lower. For 2000, the Office of National Drug Control Policy estimated that the cocaine available for consumption in the USA amounted to only 259 mt. (Office of National Drug Control Policy, National Drug Control Strategy, Data Supplement, Feb. 2003). As there are no indications that the market has expanded since, a figure of around 250 mt would seem to be a reasonable estimate of the size of the US market in terms of actual consumption.

[4] UNODC, Andean Survey, Coca Cultivation in the Andean Region in 2005 (Part IV, Colombia Coca Cultivation Survey), June 2006.

[5] UNODC, Annual Reports Questionnaire Data.

[6] US Department of State, 2007 International Narcotics Control Strategy Report, March 2007.

[7] UNODC/HONLAC, Informe nacional – México, Situación del tráfico de drogas en México, Oct. 2005.

[8] UNODC, Annual Reports Questionnaire (Mexico), for the year 2005.

try transited Mexico, a proportion believed to have increased over the last few years. The main entry point into the USA over the common border with Mexico, was through southern Texas, followed by southern California, Arizona and western Texas.[11]

Criminal organizations of ethnic Mexican background, at times holding US passports, have largely replaced the Colombian criminal groups as the predominant wholesale cocaine distributors in several parts of the USA, notably in the southern and mid-western regions over the last 15 years.[12] However, over the last few years, Mexican drug trafficking organizations (DTOs) have also developed cocaine distribution hubs in some eastern states, slowly supplanting Colombian and Dominican DTOs. In the USA, Atlanta emerged as the leading staging and distribution hub for cocaine to the east coast drug markets, including those in Florida and New York.[13]

Colombian organizations still handle cultivation, production and initial offshore movement and some direct shipments to the eastern parts of the United States, while Mexican organizations increasingly coordinate the remaining transportation and distribution segments required for the cocaine to reach US streets.[14] Despite the encroachment of Mexican DTOs, Colombian and Dominican DTOs remain the primary wholesale distributors of cocaine in many large east coast drug markets, including Boston, Miami, New York City, and Philadelphia. However, the Colombian and Dominican organizations' control in these cities is diminishing. While they continue to transport cocaine through the Caribbean, including to Puerto Rico, for subsequent transport to the east coast, they are also increasingly employing Mexican DTOs to smuggle cocaine into the USA on their behalf.[15]

While in the past (until the mid-1990s), coca paste and coca base exports from Peru used to be in the hands of the Colombian drug cartels, a significant proportion of the Peruvian cocaine exports is now organized by criminal groups from Mexico and leaves the country by sea. About 70 per cent of the cocaine HCl leaving Peru is now hidden in legitimate maritime cargo[16].

The Caribbean is declining as a transhipment zone

In the past, 30-50 per cent of the cocaine entered the USA directly via the Caribbean. However, for 2005, the United States Interagency Assessment of Cocaine Movement concluded that this proportion had fallen to below 10 per cent.[19] The main smuggling vectors via the Caribbean in 2005 were Haiti and the Dominican Republic (4 per cent), Jamaica (2 per cent) and Puerto Rico (1 per cent).[17]

In contrast to the 1980s, direct shipments by air from Colombia to the USA are diminishing and accounted for less than 1 per cent of all cocaine shipments to the USA in 2005.[18] In total, about 11 per cent of all cocaine destined for the USA entered the country by air in 2005.[19]

Europe is the second most important destination of cocaine…

The second most important destination of cocaine produced in the Andean region is Europe. In addition to Colombia as the main source country, Peru and Bolivia are frequently mentioned among European countries as sources of the cocaine found on their markets. The most frequently mentioned transit country in 2005 was Venezuela, followed by Ecuador and Brazil. In addition, the Dominican Republic, Mexico and Argentina appear to be gaining importance as transit countries. At the street level, West African groups involved in cocaine trafficking are becoming increasingly visible in a number of European countries and West Africa is also gaining importance as a transhipment zone.

In 2005, European cocaine seizures amounted to nearly 107 mt, an increase of 48 per cent compared to 2004 and the highest ever reported. Over the 1995-2005 period, cocaine seizures in Europe increased by 17 per cent per year, on average. Despite the rapidly growing

[9] Intelligence Center, National Drug Threat Assessment 007

[10] US Department of State, 2007 International Narcotics Control Strategy Report, March 2007.

[11] National Drug Intelligence Center, National Drug Threat Assessment 2007.

[12] National Drug Intelligence Center, National Drug Threat Assessment 2006, Jan. 2006.

[13] National Drug Intelligence Center, National Drug Threat Assessment 2007.

[14] Office of National Drug Control Policy, National Drug Control Strategy, Feb. 2006.

[15] National Drug Intelligence Center, National Drug Threat Assessment 2007.

[16] US Dept. of State, International Narcotics Control Strategy Report 2006.

[17] National Drug Intelligence Center, National Drug Threat Assessment 2007, Oct. 2006.

[18] Interagency Assessment of Cocaine Movement, Midyear CY 2006 Update, quoted in National Drug Intelligence Center, National Drug Threat Assessment 2007.

[19] UNODC, Annual Reports Questionnaire (USA), for the year 2005.

seizures, cocaine prices have neither risen, nor has the purity of cocaine deteriorated significantly. Thus, the increase in European seizures does not only reflect improved interdiction efforts, but unfortunately also an increased availability of cocaine on the European market.

… with Spain as the main entry point

The main entry point of cocaine into Europe continues to be Spain. Traffickers exploit Spain's historic and linguistic ties with Latin America, as well as its long coastline. Spain has reported Europe's largest cocaine seizures for the last twenty years. In 2005, Spain's seizures of 48 mt of cocaine accounted for 45 per cent of all cocaine seizures made in Europe, and rose by almost half from 2004 to 2005, which was also the result of greater effort by the Spanish enforcement agencies.

In 2006, 66 per cent of Spanish seizures were made while the cocaine was still at sea, 11 per cent were made in containers, and 6 per cent at airports.[20] Traditionally, most cocaine was seized along the northern Atlantic coast, notably in Galicia. However, over the last three years, cocaine increasingly entered the country via southern Spain (Andalucia), Madrid (by air) and Barcelona.

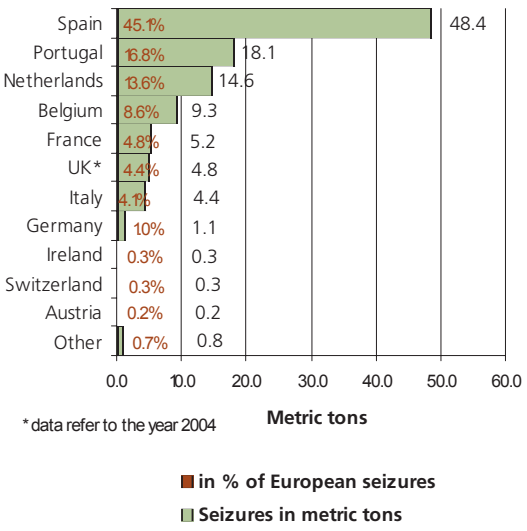
Shipments to Spain are frequently reported to have transited Venezuela, Brazil and a number of other countries, including Ecuador, the Dominican Republic, Argentina and, as a new trend, Mexico. However, the main new trend over the last two to three years has been the shipment of cocaine to West Africa, typically off the coast of Cape Verde, Guinea Bissau and the Canary Islands, as well as to various countries along the Gulf of Guinea, including Ghana, Côte d'Ivoire, Togo, Nigeria, and further west to Guinea, Sierra Leone and Liberia for subsequent deliveries to Europe. In 2005, Spain also reported the dismantling of 11 cocaine laboratories on its territory (up from 6 in 2004), which could indicate that some coca products are also being imported from Bolivia and Peru in semi-processed form.[21]

In 2005, 25 per cent of the foreigners arrested in Spain in connection with the cocaine trade[22] were Colombian citizens, followed by Moroccan citizens (15 per cent), citizens of the Dominican Republic (6 per cent) and Italians (3 per cent). While the arrests of Colombians always used to be high, more Moroccan arrestees point to the increasing role of trafficking of cocaine from West and North Africa.

Portugal emerges as the second most important European point of entry

Large increases in cocaine seizures have also been reported by Portugal and with 18 mt it has Europe's second largest cocaine seizures in 2005, equivalent to 17 per cent of all European seizures. Portugal's cocaine seizures more than doubled in 2005 (from 7 mt in 2004) and almost doubled again in 2006 to 35 mt, thereby becoming another major European gateway for cocaine. The huge seizures made by the authorities in Portugal are mainly linked to the rising importance of West Africa, including some of the Portuguese speaking countries (such as Cape Verde or Guinea Bissau) for smuggling cocaine from the Andean region, often via Brazil and West Africa to Europe.

Fig. 49: Cocaine seizures in Europe (street purity)



Source: UNODC, Annual Reports Questionnaire Data / DELTA.

Cocaine continues to transit the Caribbean on its way to Europe

One of the main cocaine trafficking routes to Europe continues to go via the Caribbean, where the Netherlands Antilles, notably Aruba, are at the centre for shipment of cocaine to the Netherlands. The Dutch

[20] Ministerio del interior, presentation on cocaine trafficking by sea routes to CND, 12 - 16 March 2007.

[21] UNODC, Annual Reports Questionnaire data (Spain), for 2005.

[22] The total number of foreigners arrested in Spain for cocaine-related violations of the narcotics law amounted to 2523 persons in 2005. The number of offenders with Spanish passports amounted to 4988 persons; for 190 cases, no nationality was given.

authorities made more than 40 per cent of their total seizures in the waters around the Netherlands Antilles in 2004[23] and in 2005, the second largest cocaine seizures in the Caribbean region (more than 5 mt) were made in the island of Aruba. The largest cocaine seizures in the Caribbean in 2005 were reported from St. Kitts and Nevis, with slightly more than 5 mt; the second largest were reported from Aruba and the third largest from the Dominican Republic with slightly more than 2 mt. In total, the countries in the Caribbean made seizures of 16 mt of cocaine in 2005, slightly more than a year earlier (15 mt).

Cocaine enters the Netherlands from the Caribbean either by sea, typically via Rotterdam, or by air, mainly via Schiphol airport in Amsterdam. However, the importance of Amsterdam has declined drastically in recent years following the introduction of strict controls (100 per cent checks on direct flights from the Netherlands Antilles to Amsterdam) and greater cooperation with the Netherlands Antilles and Suriname. As a consequence, drug couriers choose other Caribbean countries, such as the Dominican Republic, to avoid detection, and are more reluctant to fly directly to Amsterdam. A number of European countries now report the Netherlands as the destination country of the cocaine seized on their territory, indicating that traffickers are changing their routes and are increasingly sending cocaine to Amsterdam via other European airports.

The Caribbean, notably Jamaica[24], also continues to play an important role for cocaine shipments to the UK. Although the largest quantities are trafficked via Spain and the Netherlands into the UK, small but rapidly rising quantities arrive via countries in West Africa. A significant number of the traffickers involved in the smuggling of cocaine from the Caribbean into the UK are British-born West Indians.[25]

The Caribbean region is also an important transhipment location for cocaine entering France, although significant amounts enter France via Spain, the Netherlands and increasingly West Africa. In the Caribbean, Martinique had the fourth highest drug-related arrest figures per capita among all 100 French departments in 2004, thereby exceeding the corresponding rates for Paris.[26] In 2005, significant seizures were also made on private sailboats close to Guadeloupe, which are used to smuggle cocaine from the Caribbean to France and other European countries. Most of the cocaine shipments from the Caribbean to France (as well as from West Africa to France) are by air, frequently going to the airports of Charles de Gaulle and Orly.[27] France itself is not only a destination country but also a significant transit country. The French authorities, like those of most other European countries, reported most cocaine seized in 2005 as being in transit, primarily destined for Spain (45 per cent), the Netherlands (10 per cent) and only 17 per cent for domestic consumption.[28] This shows at first sight a rather surprising two-way flow of cocaine with both Spain and the Netherlands. Furthermore, France was the only other European country, apart from Spain, to report the dismantling of a cocaine laboratory on its territory in 2005.

Countries neighbouring the Andean producers are growing as transhipment zones

Other important transit countries from the Andean region to Europe are Venezuela, Ecuador and Brazil, and less frequently, the Netherlands Antilles, Suriname, Argentina, Panama and Costa Rica.[29] Some of these countries also reported dismantling cocaine laboratories (notably Venezuela and Argentina), which could indicate that they are not only transit, but also cocaine manufacturing countries.

Italy, for instance, reported that 41 per cent of its cocaine deliveries could be backtracked to Venezuela (up from 22 per cent a year earlier) and 14 per cent to Spain in 2005. The organized criminal groups of Naples increasingly control the cocaine market in Italy, although West African groups play an important role in northern Italy as well. Most of the cocaine entering Italy is for the domestic market (82 per cent). While the main European transit countries for the cocaine entering Italy are Spain, France and the Netherlands, there have also been cocaine exports from Italy, mostly directed towards the Netherlands (5 per cent of total seizures in 2005),

[23] Seizures made in the waters around the Netherlands Antilles (13.7 mt) have subsequently been excluded from the total of seizures made by the Netherlands (21.4 mt) in order to gain a more accurate picture of their geographical location.

[24] Foreign and Commonwealth Office, Major cocaine producing and trafficking regions, May 2006.

[25] Serious Organized Crime Agency (SOCA), The United Kingdom Threat Assessment of Serious Organized Crime, 2006/07.

[26] Direction centrale de la police judiciare, Aspects de la criminalité et de la délinquence constatées en France en 2004 – Tome 2, Paris, 2005

[27] UNODC, Annual Reports Questionnaire data (France), for 2005.

[28] UNODC, Annual Reports Questionnaire (France), for 2005.

[29] UNODC, Annual Reports Questionnaire data.

[30] UNODC, Annual Reports Questionnaire data (Italy), for 2005.

another example of two-way flows of cocaine in Europe.[30]

Concerns about cocaine along the Balkan route

While most cocaine shipments from South America continue to be directed towards western Europe (more than 99 per cent of European cocaine seizures), some shipments to East Europe and the Balkan countries have been noticed by enforcement agencies. This raises concerns about the development of new trafficking routes and/or the incorporation of cocaine into the range of products offered by traditional heroin trafficking groups operating along the Balkan route. Some cases of cocaine shipments via the Black Sea to Romania and via the Adriatic Sea to Montenegro often organized by Albanian criminal groups, have already been observed.

Cocaine trafficking through West Africa emerges as a serious problem…

The rising importance of Africa, primarily West and Central Africa, as a transit zone for cocaine shipments destined for European markets is becoming increasingly evident. However, seizures made in Africa (0.3 per cent of global cocaine seizures in 2005) remain very modest in comparison to the continent's potential scale of trafficking flows. The low seizure rates mainly reflect economic and institutional weakness in the region.

In 2005, cocaine seizures reported by African countries amounted to 2.5 mt; 52 per cent of these seizures were in West and Central Africa, 33 per cent in North Africa and 14 per cent in southern Africa. In 2005, African cocaine seizures were higher than in 2003 or 2002, but lower than in 2004. Nonetheless, there can be no doubt that cocaine trafficking via Africa is on the rise. UNODC's database for individual seizures shows that 9 per cent of all cocaine seizure cases made in Europe in 2005, where the 'origin' was established, were smuggled via Africa; in 2006, this proportion rose to 12 per cent.

Cocaine is frequently shipped to the countries along the Gulf of Guinea, from where it is usually trafficked by body packers to various destinations in Europe, with the main African re-distribution centres being Ghana and Nigeria. In addition, large quantities of cocaine are shipped to the waters around Cape Verde and off the coasts of Guinea and Guinea Bissau, most of which is destined for Spain and Portugal

The most frequently mentioned transit country of cocaine shipments to Africa is Brazil, ahead of Colombia, Peru and Venezuela. The authorities in Guinea estimate that 60 per cent of the cocaine comes into their waters via Brazil, and 40 per cent directly from Colombia[31].

The largest African cocaine seizures in 2005 were reported by Morocco (0.8 mt), followed by Ghana (0.7 mt), Nigeria (0.4 mt), South Africa (0.3 mt) and Cape Verde (0.2 mt). One cocaine laboratory was dismantled in South Africa in 2005. Out of 40 African countries reporting seizure statistics in 2005, 31 countries (78 per cent) reported seizures of cocaine, an increase from 34 per cent in 1990.

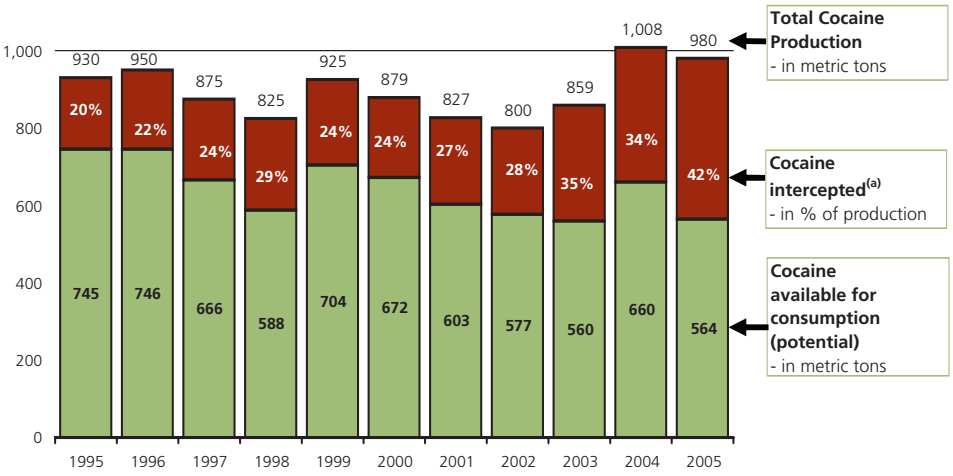
… while cocaine trafficking in Asia and Oceania is still limited

Although cocaine seizures in Asia almost doubled in 2005, they still remained at very low levels, 0.5 mt, when compared to other regions. Seizures in Oceania amounted to 0.1 mt in 2005. The largest seizures in Asia were made by China (256 kg), followed by Israel (164 kg), the Islamic Republic of Iran (27 kg), Lebanon (26 kg), Hong Kong SAR of China (17 kg), Syria (14 kg), Thailand (6 kg), Malaysia (5 kg), India (4 kg), Indonesia (1 kg), Cambodia (1 kg), Jordan (0.5 kg) and Saudi Arabia (0.3 kg). Out of 41 Asian countries reporting seizures, 18 countries (43 per cent) reported seizures of cocaine in 2005.

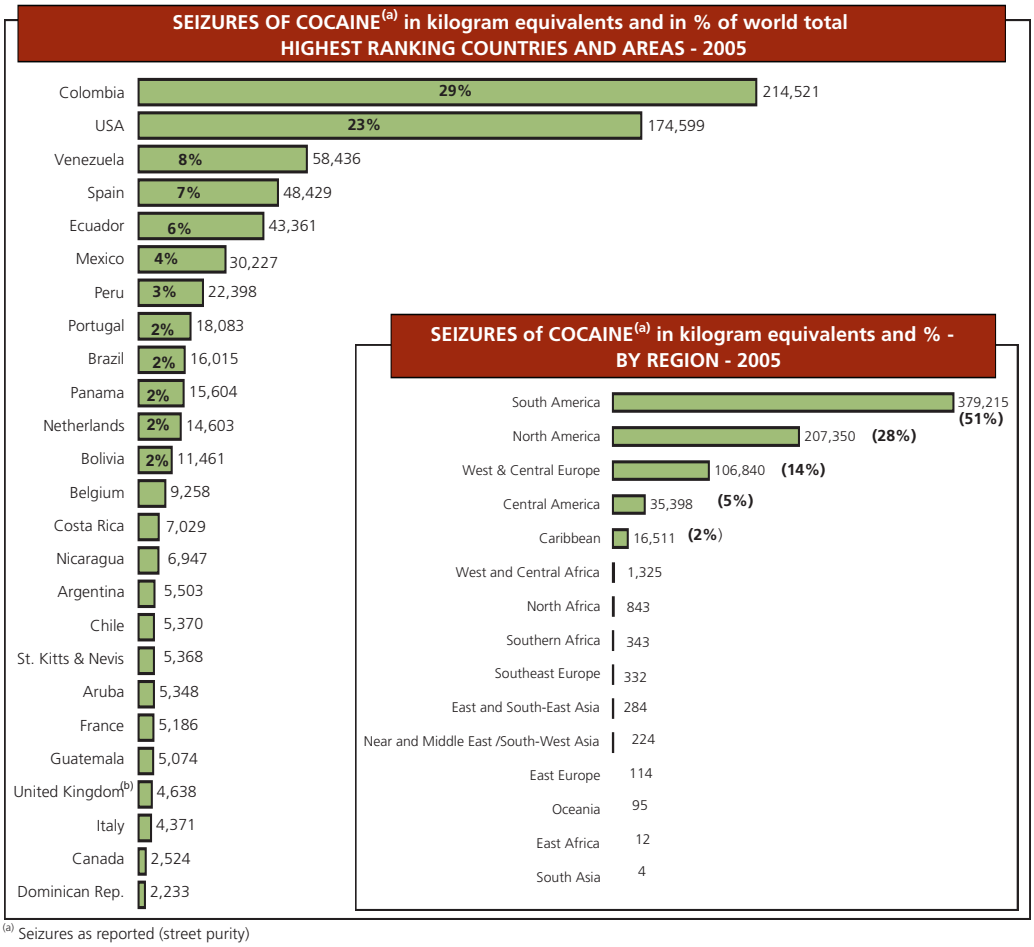
While cocaine manufacture in Asia is still the exception, four clandestine cocaine-manufacturing laboratories were dismantled in Hong Kong SAR of China in 2004. In March 2006, authorities in mainland China, in cooperation with the US DEA, made their largest ever cocaine seizure (135 kg), close to the Hong Kong border, and dismantled one laboratory. The people arrested included Chinese and Colombian nationals.

[31] UNODC, Annual Reports Questionnaire Data (Guinea), for 2005.

Fig. 50: Global Illicit supply of cocaine 1995 - 2005

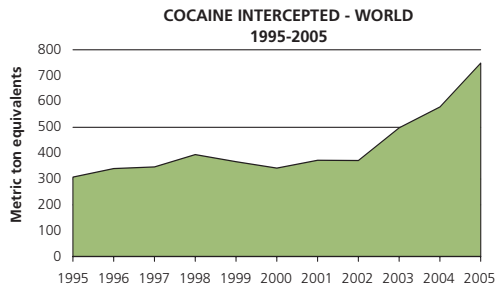


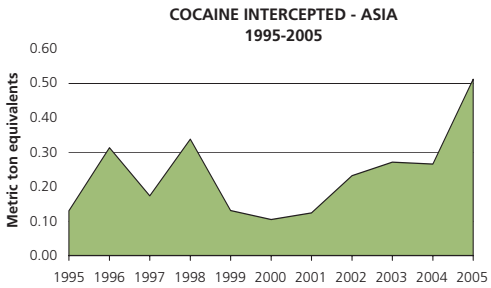
(a) Converted to 100% purity.

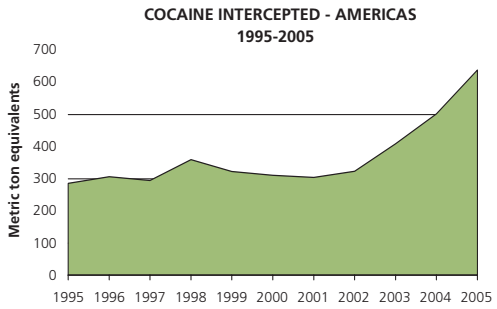


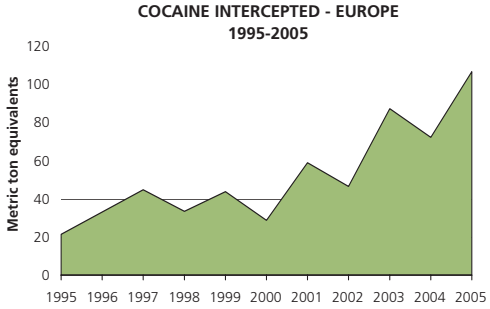
(a) Seizures as reported (street purity)
(b) data refer to 2004

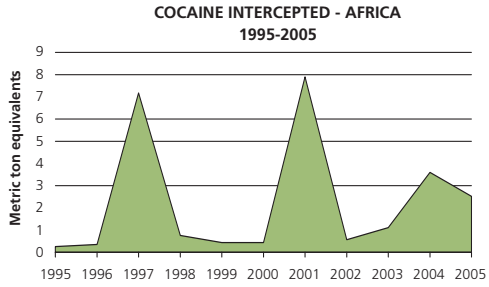
Fig. 51: Global seizures of cocaine, 1995 - 2005











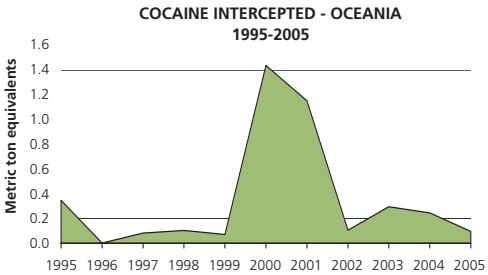


Fig. 52: USA: Cocaine retail and whole sale prices, 1990-2005 (US$/gram)

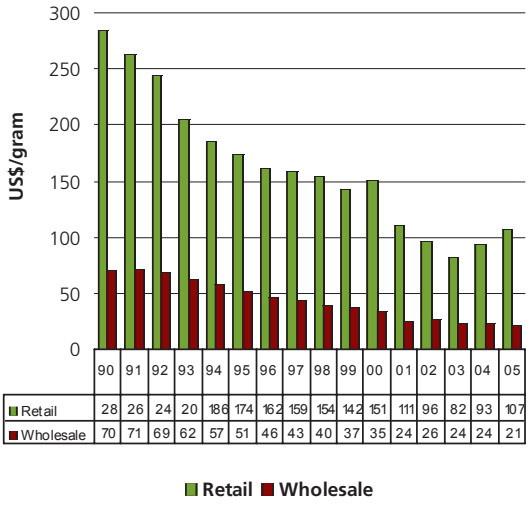


Fig. 53: EUROPE: Cocaine retail and wholesale prices, 1990-2006 (US$/gram)

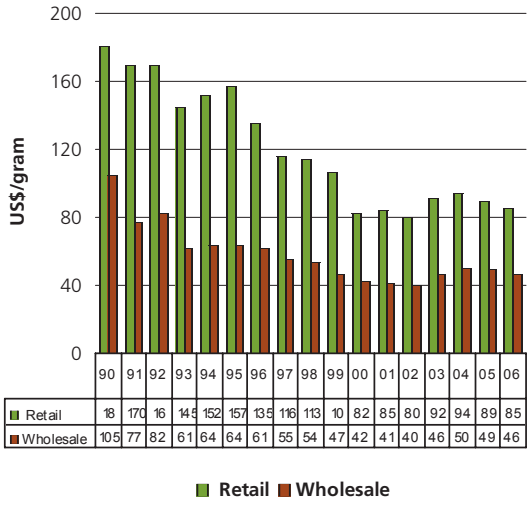
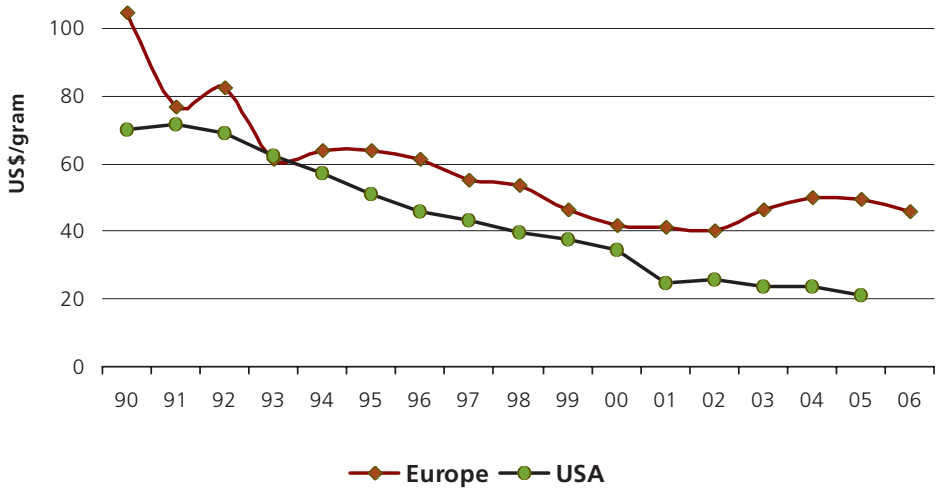
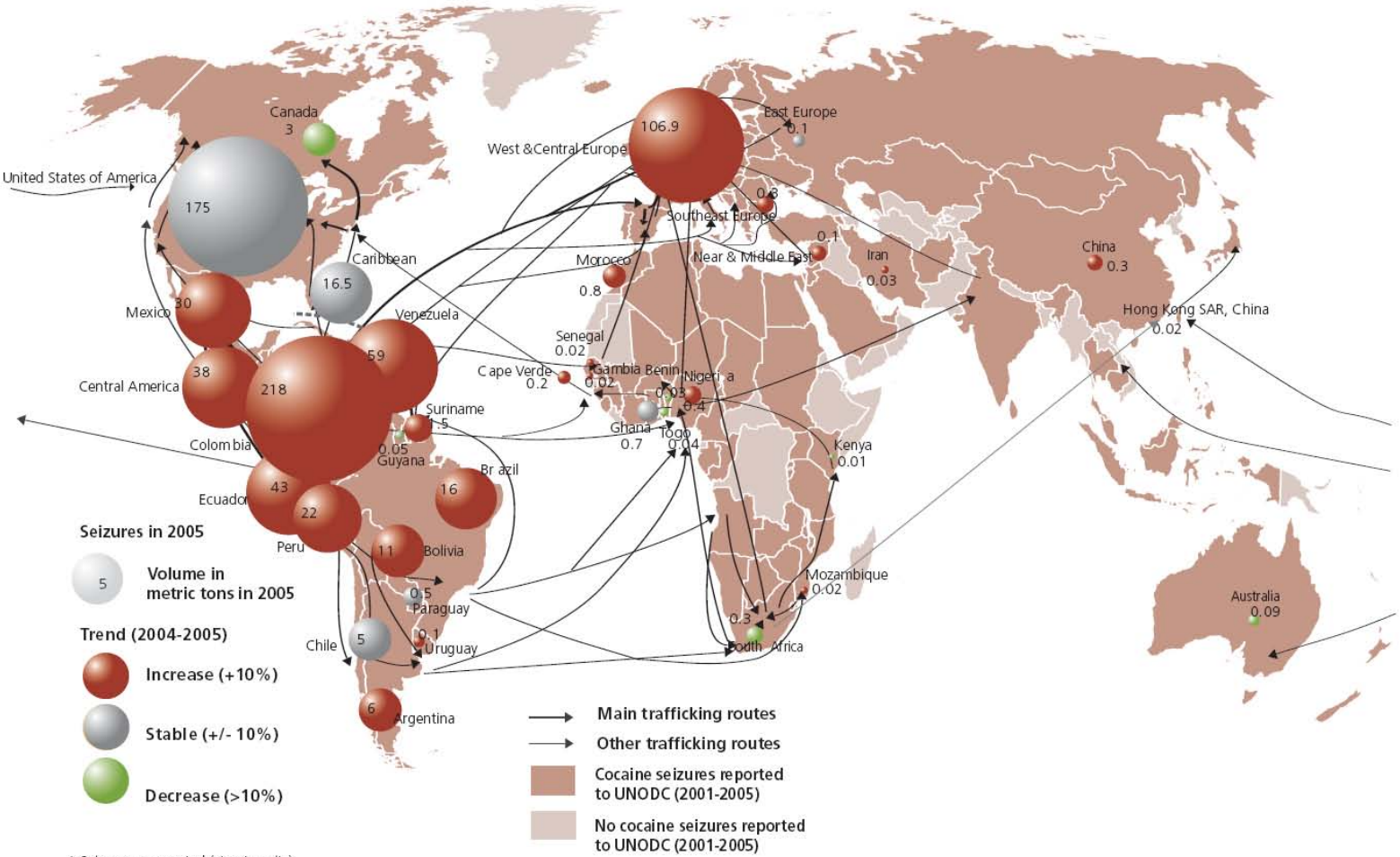


Fig. 54: Wholesale cocaine prices in Europe and the USA, 1990-2006 (US$/gram)



Map 11: Trafficking in cocaine, 2005 (countries reporting seizures* of more than 10 kg)



* Seizures as reported (street purity)

Source: UNODC Annual Reports Questionnaires data/DELTA

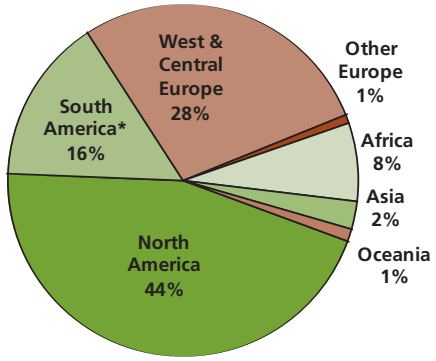
1.3.4 Abuse

Consumption continues to be concentrated in North America, followed by Western Europe and South America

UNODC estimates that 14 million people worldwide or 0.3 per cent of the population aged 15-64 use cocaine. Annual prevalence rates are highest in North America (2.2%), followed by West and Central Europe (1.2%), South America (incl. the Caribbean and Central America: 0.8%) and Oceania (0.8%).

The largest numbers of cocaine users are found in North America (6.4 million people), followed by West & Central Europe (3.9 million) and South America (including Central America and the Caribbean: 2.2 million). Based on data from rapid assessments 1.1 million people in Africa and 0.3 million people in Asia use cocaine.

Fig. 55: Annual prevalence of cocaine use (2005): distribution by region (N=14.3 million)



* including Central America and Caribbean

Sources: UNODC, Annual Reports Questionnaire Data, UNODC Field Offices, UNODC's Drug Abuse Information Network for Asia and the Pacific (DAINAP), UNODC, Global Assessment Programme on Drug Abuse (GAP), Govt. reports, EMCDDA, CICAD, HONLEA reports, local studies,UNODC estimates.

Table 9: Annual prevalence of cocaine use, 2005 or latest year available

	No. of users	in % of population 15-64 years
EUROPE	4,056,000	0.75
West & Central Europe	3,944,000	1.24
South-East Europe	66,000	0.08
Eastern Europe	46,000	0.03
AMERICAS	8,610,000	1.48
North America	6,363,000	2.19
South America	2,247,000	0.77
ASIA	329,000	0.01
OCEANIA	178,000	0.83
AFRICA	1,084,000	0.22
GLOBAL	**14,257,000**	**0.34**

Above global average **Around global average** **Below global average**

Sources: UNODC, Annual Reports Questionnaire Data, UNODC Field Offices, UNODC's Drug Abuse Information Network for Asia and the Pacific (DAINAP), UNODC, Global Assessment Programme on Drug Abuse (GAP), Govt. reports, EMCDDA, CICAD, HONLEA reports, local studies, UNODC estimates.

Global cocaine use remained largely stable ...

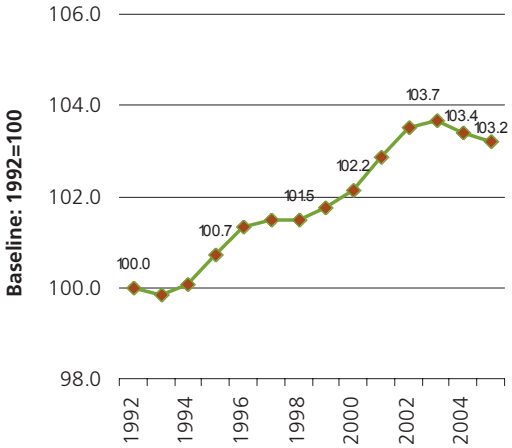
Year on year, the global prevalence rate for cocaine 0.3% has remained the same though the estimated number of cocaine users (14.3 million) has increased slightly.[1] Increases of cocaine use in Europe, South America, Africa and Asia have been largely offset by declines in North America.[2] The higher cocaine use at the global level was due to higher estimates of cocaine use for West and Central Europe (from 3.5 to 3.9 million) and for South America (from less than 2 million to 2.25 million). Cocaine use increased significantly in Western Europe in 2005.

The higher estimate for cocaine use in South America in 2005 resulted primarily from one new national household survey conducted in Brazil (which contains 40% of the continent's population.) The survey found substantially higher cocaine prevalence rates than the previous survey from 2001.[3] UNODC also re-adjusted its prevalence estimates for a number of other countries in South America, according to the results of new school surveys done jointly with CICAD, UNODC and the countries concerned.[4] In most cases, this resulted only in minor adjustments of previous estimates. In short, most of the 'increase' in South American prevalence rates in 2005 has been due to adjustments, trying to make the estimates more realistic. Excluding such adjustments, cocaine use in South America would have increased at a much lower rate. The same is also true for estimates concerning Africa (from 1 to 1.1 million) and Asia (from 0.26 to 0.33 million). Excluding such adjustments, estimates for cocaine use in these regions, and at the global level, would have remained largely stable.

… even declining slightly according to experts opinion

Trend estimates provided by national experts (weighted by the number of cocaine users in each country) suggest that global cocaine use has declined slightly in 2004 and 2005, following ongoing increases over the previous decade.

Fig. 56: Cocaine use trends* as perceived by experts: 1992-2005



Sources: UNODC, Annual Reports Questionnaire Data, UNODC Field Offices, UNODC's Drug Abuse Information Network for Asia and the Pacific (DAINAP), UNODC, Global Assessment Programme on Drug Abuse (GAP), Govt. reports, EMCDDA, CICAD, HONLEA reports and local studies.

The stabilization in expert perception reports in 2004 and 2005 was due to lower cocaine use level reported from countries in North America (USA, Canada), offsetting increases reported from South America: cocaine producing countries Peru and Bolivia, their neighbours, and most Central American countries, which are increasingly being used as transhipment locations. Cocaine use in the Caribbean was reported to have remained largely stable (in line with reports of declining use of the Caribbean for shipments to North America). Cocaine use in Oceania was also reported to have been basically stable, following some decline over the previous years.

[1] In the World Drug Report 2006, UNODC published an estimate of 13.4 million people or 0.3% of the population age 15-64.

[2] One problem here is that there is regular reporting of the drug situation in North America (and thus only small declines are reported each year) while reporting in other regions is far more sporadic, i.e. new estimates are only provided after intervals of several years (i.e. after new surveys have been released). This has significant implications. It means that the global estimate is rather conservative. It also means that the reported trends are potentially misleading. If a number of new surveys are released in countries where the trend has been increasing, the reported increase has, in general, not only occurred in the year of reporting but over a longer period. This can make year on year comparisons of global drug use levels potentially misleading.

[3] There are some indications that the first national household survey, conducted in Brazil in 2001, may have resulted in some under-reporting. The 2001 household survey showed annual cocaine use levels of 0.4%. The second household survey, conducted in 2005, found an annual prevalence rate of cocaine use of 0.7%. This is in line with current results of student surveys in Brazil and the student surveys / national household survey ratios in neighbouring countries, while this was not the case for the first survey, conducted in 2001. In short, despite higher prevalence rates of the 2005 national household survey, available data do not exclude the possibility that no significant increase of cocaine use may have taken place in Brazil. School surveys failed to show any increase over the last few years. National school surveys conducted in 2004 showed a stabilization of lifetime prevalence rate at around 2%, about the same level as found in 1997 (2.1%). (Source: CEBRID, Levantamento Nacional Sobre o Uso de Drogas Psicotropicas entre Estudantes do Ensino Fundamental e Medio da RedePublica de Ensino nas 27 Capitais Brasileiras, 2004).

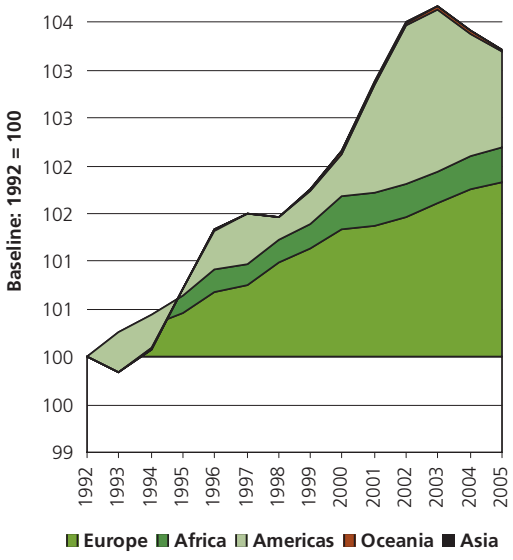
[4] UNODC and CICAD – Sistema Subregional de Información e Investigación sobre Drogas en Argentina, Bolivia, Chile, Ecuador, Perú y Uruguay, Primer estudio comparativo sobre uso de drogas en poblaciónescolar secundaria de Argentina, Bolivia, Brasil, Colombia, Chile, Ecuador, Paraguay, Perú y Uruguay, Lima, Sept. 2006.

Cocaine use in Europe, in contrast, continued to increase unabated. Increases were reported from most of Western Europe and South-Eastern Europe. In fact, most of the global increase of cocaine use over the last decade can be attributed to rapidly rising cocaine consumption in Europe. Only in Central Europe and in East Europe were cocaine use levels reported to have remained stable in 2005.

Cocaine use in Africa increased, notably in western Africa and in southern Africa as well as along the Atlantic coast of north Africa. This is linked to the increasing importance of Africa as a transhipment zone for cocaine from South America to Europe.

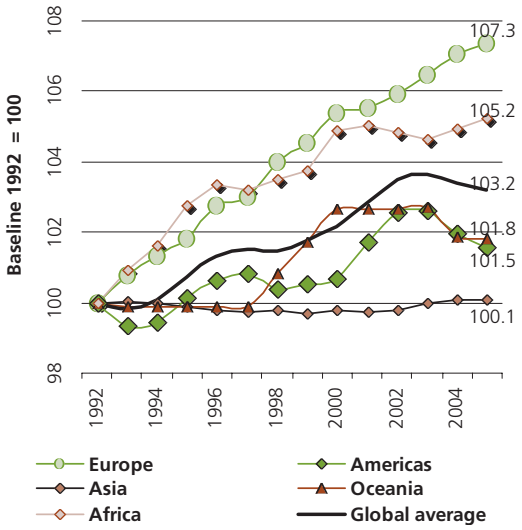
Cocaine use in Asia increased slightly, mainly due to higher levels of use reported from India. The increase is, however, from very low levels. Supply of cocaine to India - though still very modest - seems to be mainly organized by West African traffickers, exchanging South-American cocaine with South-West Asian heroin for final shipments to Europe or North America. In most other parts of Asia, cocaine use levels remained stable and at very low levels.

Fig. 57: Cocaine use trends as perceived by experts: regional contribution to global change: 1992-2005



Sources: UNODC, Annual Reports Questionnaire Data, UNODC Field Offices, UNODC's Drug Abuse Information Network for Asia and the Pacific (DAINAP), UNODC, Global Assessment Programme on Drug Abuse (GAP), Govt. reports, EMCDDA, CICAD, HONLEA reports and local studies.

Fig. 58: Cocaine use trends as perceived by experts – changes in regions, 1992-2005 (baseline: 1992=100)



Sources: UNODC, Annual Reports Questionnaire Data, UNODC Field Offices, UNODC's Drug Abuse Information Network for Asia and the Pacific (DAINAP), UNODC, Global Assessment Programme on Drug Abuse (GAP), Govt. reports, EMCDDA, CICAD, HONLEA reports and local studies.

… mainly reflecting falling cocaine use in North America ...

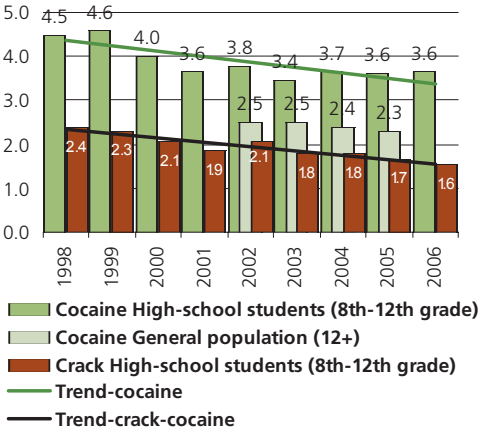
Indications of a decline of cocaine use are found in the US National Household Survey on Drug Use and Health as well as in student surveys (from both the US and Canada) and in data from drug treatment admissions.

The number of admissions for cocaine related treatment in the USA fell over the last decade from 278,000 in 1995 to 256,000 in 2005. Expressed as a percentage of all drug related treatment[5], cocaine treatment fell from 23.5% in 1995 to 20.4 per cent in 1998 and 17.7 per cent in 2005[6]. Average annual prevalence of cocaine use among 8th-12th graders fell from 4.6 per cent in 1999 to 3.6 per cent in 2006, equivalent to a decline of more than 20 per cent. As compared to the peak in 1985, cocaine use among 12th graders was even more than 50 per cent lower in 2006 (5.7 per cent in 2006 as compared to 13.1 per cent in 1985). Use of crack-cocaine, which is responsible for much of problem drug use in the USA, also declined. The annual prevalence of

[5] Drug related treatment has been defined here as all substance related treatment less 'alcohol only' treatment.

[6] SAMHSA, Treatment Episode Data Set (TEDS) - Highlights 2005.

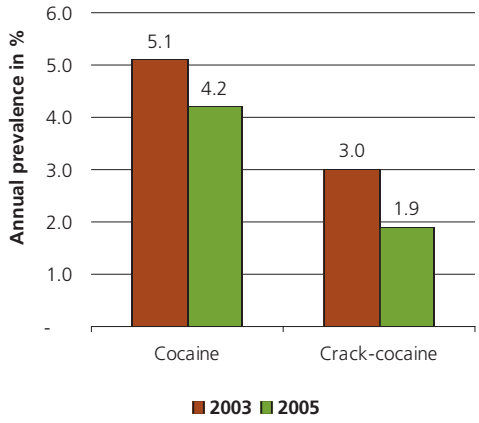
Fig. 59: Cocaine use among the general population* and among students (8th-12th grades), USA, 1998-2006



* Note: due to changes in methodology, household survey results prior to 2002 are not directly comparable to those after 2002, and are thus not shown.

Sources: SAMHSA, National Survey on Drug Use and Health and NIDA, Monitoring the Future.

Fig. 60: Ontario (Canada): Cocaine use among high-school students (7th-11th grade)



Source: CAMH, Drug Use Among Ontario Students, 2005.

cocaine use among the general population of the USA also declined, from 2.5 per cent of the population age 12 and above in 2003 to 2.3 per cent in 2005, and is more than 50 per cent lower than two decades ago.

School surveys conducted in Ontario, Canada, also showed a decline, from an annual prevalence rate of 5.1 per cent among 7th to 12th graders in 2003 to 4.2 per cent in 2005, equivalent to a decline of 18 per cent within a two-year period. Cocaine use in Canada is now slightly below the levels reported two decades earlier.[7] School survey data from Ontario suggest that cocaine use levels among students are higher than those in the United States. If the general population is considered, however, both annual prevalence of cocaine use (1.9 % in Canada as a whole in 2004) as well as life-time use (10.6 %)[8] are significantly lower than the rates reported from the USA (2.4 per cent and 14.2 per cent, respectively, for 2004 or 2.3 % and 13.8 %, respectively for 2005).

The highest levels of cocaine use in Canada are found along the Pacific coast in the province of British Colombia (16.7% life-time prevalence in 2004). The four Canadian provinces along the Atlantic show rates of cocaine use that are just half or less (3.7%-7.1%) the levels reported from British Colombia. Life-time prevalence rates of cocaine use in British Colombia are also higher than those reported for the USA as a whole. British Colombia is also faced with the highest levels of annual prevalence rates of cocaine use (2.6%) in Canada, marginally ahead of Quebec (2.5%) and Alberta (2.4%).

Though very high by Canadian standards, a number of states across the border in the USA show still significantly higher levels of cocaine use than British Colombia. Clearly higher levels (based on 2003 & 2004 data)[9] are found in Rhode Island (3.5%), Colorado (3.4%), Arizona (3.3%), New Mexico (3.1%) and the District of Colombia (2.9%).

The data show that overall 4 states in the USA have cocaine use levels of more than 3 per cent, 40 states have between 2 per cent and 3 per cent and 7 states have cocaine use levels of less than 2 per cent. These data also suggest that differences between the lowest and highest cocaine using states in the USA are less pronounced than the differences among the provinces in neighbouring Canada (or in Europe).

Data for 2005 on the regional distribution of cocaine use among youth (age 12-17) in the USA reveal widespread cocaine consumption in the states bordering Mexico (Texas, Arizona and New Mexico), reflecting, inter alia, increasing levels of cocaine trafficking via this border. Another area of concentration remains the New England states along the East Coast. A comparison with data for the older age groups (26+) suggests that the

7 CAMH, Drug Use Among Ontario Students, 2005.

8 Canadian Centre on Substance Abuse, Canadian Addiction Survey 2004, Ottawa 2005.

9 SAMHSA, State Estimates of Substance Use from the 2003–2004 National Surveys on Drug Use and Health, Rockville MD 2006.

high prevalence rates close to the Mexican border are a relatively new phenomenon. Among the 'older' generation, cocaine use is more concentrated in the New England states and in Florida. In fact, much of the initial trafficking of cocaine from Colombia to the USA, either directly by air or by boat via the Caribbean, targeted these areas in particular.

The latest data for 2006, based on results of drug testing among the general workforce, show high levels of cocaine use in the border regions of Texas with Mexico and in the counties along the border between Texas and New Mexico. In addition, high levels are found along the East coast, from Florida to Washington D.C.

Cocaine use levels across the border in Mexico are still substantially lower than in the USA. The last national household survey, conducted in 2002, found an annual prevalence rate of 0.35 per cent for the population aged 12-65 - which is in line with the global average but far below the use levels reported from Canada or the USA[10]. However, the survey also revealed that regional differences within Mexico are quite strong. The highest prevalence rates of cocaine use were found in the northern provinces (life-time prevalence of 3.1%), notably in provinces bordering the United States. Prevalence rates in central Mexico (0.7%) and in southern Mexico (0.5%) were still low. Overall, Mexico reported a stable situation in 2005.

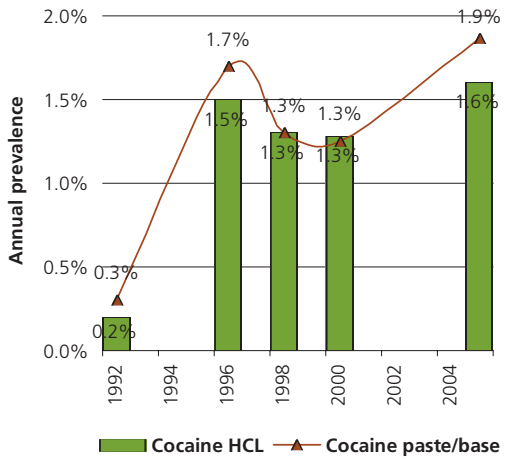
… and rising cocaine use in South America

Six countries in South America, including the Caribbean and Central America, reported rising levels of cocaine use and four reported that levels of use were stable.

Survey data from Colombia show that life-time prevalence of cocaine use increased over the 1992-2004 period, from 1.5 per cent in 1992[11] to 3.7 per cent in 2004,[12] with indications that the increase took place in the late 1990s. Life-time prevalence of cocaine use among youth, aged 10-24, was more than 5 times higher in 2001 than in 1996. This increase may have been associated with the rapid expansion of coca cultivation in Colombia in the late 1990s. A comparison of annual prevalence estimates derived from these studies, with actual annual prevalence data from the new national survey, suggests that cocaine use prevalence (including basuco) may have declined over the 2001-2004 period in parallel with the decline of coca cultivation.[13] Annual prevalence of cocaine use amounted to 0.8 per cent of the population age 18-65 in 2004.

Cocaine use in Bolivia rose over the 2000-2005 period after declining in the late 1990s parallel to a decline in domestic coca leaf production. Similarly, the increase in the first years of the new millennium went in parallel with rising levels of coca cultivation and cocaine production.

Fig. 61: Bolivia: annual prevalence of cocaine use (age 12-50), 1992-2005



Source: CELIN, Investigacion: Estudio Comparative Consumo de Alcohol, Tabaco, Cocaina, y otras Drogas en Bolivia, 1992-1996-1998-2000-2005, Bolivia 2005.

Increases in cocaine use, from 0.4 per cent (annual prevalence) in 2001 to 0.7 per cent in 2005, have been reported in household surveys conducted in Brazil. School surveys conducted in Brazil pointed to stable cocaine use over the 1997 - 2004 period.[14] At the same time, there are reports of increasing activities of cocaine peddling gangs in the south-eastern states of the country and of the increasing exploitation of Brazil by international organized crime groups as a transit point for cocaine shipments from Colombia, Bolivia and Peru to Europe, often via Africa. This may have led to some increase of local cocaine consumption .

[10] Consejo Nacional Contra las Adicciones (CONADIC), Encuesta Nacional de Adicciones 2002, Mexico 2003.

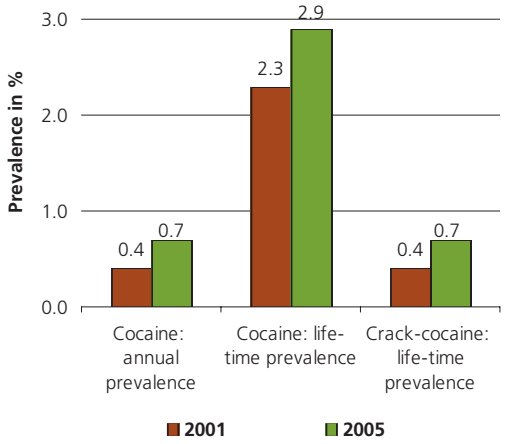
[11] Direccion Nacional de Estupefacientes, Estudio Nacional sobre Consumo de Sustancias Psicoactivas 1992.

[12] Direccion Nacional de Estupefacientes , Observatoria de Drogas de Colombia 2005, Acciones y Resultados, Bogota 2005.

[13] This type of direct comparison is methodolgically problematic and should be treated with caution.

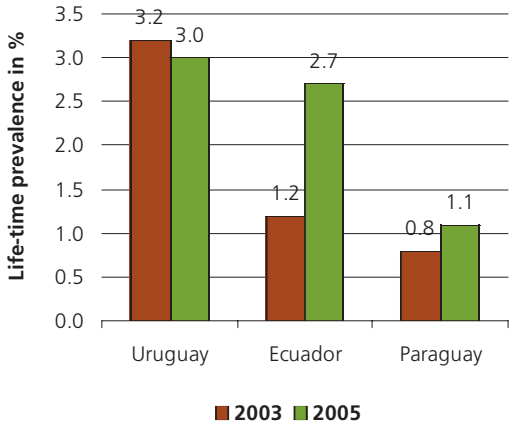
[14] CEBRID, Levantamento Nacional Sobre o Uso de Drogas Psicotropicas entre Estudantes do Ensino Fundamental e Medio da Rede Publica de Ensino nas 27 Capitais Brasileiras, 2004.

Fig. 62: Brazil: annual prevalence of cocaine use in 2001 and 2005



Source: CEBRID, Il Levantamento Domiciliar sobre o Uso de Drogas Psicotrópicas no Basil: Estudo Envolvendo as 108 Maiores Cidades do Pais, 2005, Sao Paolo 2006 and CEBRID, Il Levantamento Domiciliar sobre o Use de Drogas Psicotrópicas no Basil: Estudo Envolvendo as 107 Maiores Cidades do País, Sao Paolo 2002.

Fig. 63: Life-time prevalence of cocaine HCl use among 15-16 year old students in Uruguay, Ecuador and Paraguay



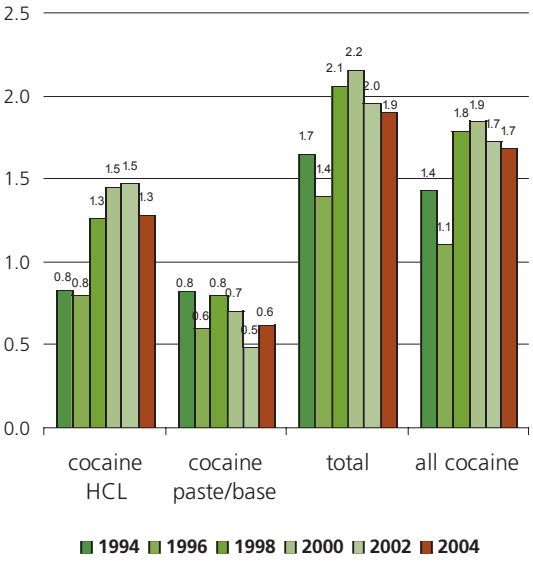
Sources: UNODC and OAS/CICAD (Sistema Subregional de Información e Investigación sobre Drogas en Argentina, Bolivia, Chile, Ecuador, Perú y Uruguay with participation of SEDRONAR, CONACE, CONALTID, CONSEP, DEVIDA and JND), Jóvenes y Drogas en Países Sudamericanos: un Desafío para las Políticas Públicas - Primer Estudio Comparativo sobre Use de Drogas en Población Escolar Secundaria, 2006 and OAS/CICAD, Estudio Comparativo del Consumo de Drogas en Paises Americanos – Basado en Encuestas SIDUC a Estudiantes den enseñanza Media, Washington 2003.

Analysis of the regional distribution of cocaine use in Brazil shows that the South-East and the South are most heavily affected while use in the North-East and North is more moderate.

School surveys conducted in 2003 and 2005/2006 showed strong increases of cocaine use in Ecuador. This may be linked to the rapid increase of cocaine availability as the country is increasingly used as a transshipment zone for Colombian cocaine. Some increases – though less significant - were also found in school surveys conducted in Paraguay. Cocaine use levels in Paraguay remained, nonetheless, low. School surveys conducted in Uruguay suggest that cocaine use – starting from high levels – has stabilized or even declined over the last few years.

Cocaine use also appears to have stabilized in Chile. Following increases in the 1990s, small declines in overall cocaine use have been reported in annual household surveys over the 2000-2004 period. Annual prevalence of cocaine use among the general population fell from 1.9 per cent in 2000 to 1.7 per cent in 2004. If only cocaine HCL is considered, the decline was from 1.5 per cent in 2000 to 1.3 per cent in 2004. School survey results also reveal a basically stable level of cocaine use over the 2001-2005 period.

Fig. 64: Chile: cocaine use among the general population (age 12–64), 1996-2004

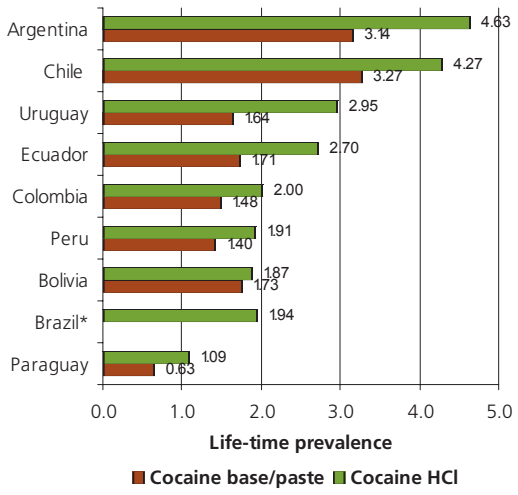


Source: CONACE, Sexto Estudio Nacional de Drogas en Poblacion General de Chile, 2004.

New school survey data for South America show interesting north-south patterns

UNODC participated, together with the national authorities and OAS/CICAD, in the first continent-wide school survey among secondary students in South America. This exercise facilitates direct comparison of the drug use levels among students in different countries across the continent, as well as with the results of school surveys undertaken in North America and Europe. The results[15] have shown rather high levels of cocaine HCl use in Argentina (life-time prevalence of 4.6% among 15-16 year old students) and in Chile (4.3%), followed by Uruguay and Ecuador. The lowest levels were reported by Paraguay (1.1%). Among the three Andean countries, cocaine use levels among secondary students turned out to be very similar (1.9%-2%), with only marginally higher levels reported by Colombia. Levels of cocaine paste/base consumption are highest in Argentina, Chile and Bolivia.

Fig. 65: Life-time prevalencea of cocaine use among high-school students in South America, age 15-16, 2004-2006



* Cocaine HCl and cocaine

Source: UNODC and CICAD (Sistema Subregional de Información e Investigación sobre Drogas en Argentina, Bolivia, Chile, Ecuador, Perú y Uruguay with participation of SEDRONAR, CONACE, CONALTID, CONSEP, DEVIDA and JND), Jóvenes y Drogas en Países Sudamericanos: un Desafío para las Políticas Públicas - Primer Estudio Comparativo sobre Use de Drogas en Población Escolar Secundaria, 2006.

a/ results sorted by use of cocaine HCl;

The results of student surveys, when used for the purposes of ranking, generally track those of general population surveys. However, there do exist important exceptions to this which could indicate an under-reporting in some of the household surveys.[16] Also, in this particular case, the proportion of youths attending schools differs significantly among South American countries. This means that, for some countries, drug use levels among young people in schools may not necessarily be representative of drug use levels among youth in general. Data seem to indicate that the richest countries in South America are faced with the highest levels of cocaine use among students. One possible explanation could be that the proportion of street children is larger in less developed countries. Because these children can fall outside school based surveys it could lead to an under-representation of the youth substance abuse problem in school surveys.

Cocaine use levels in South America could be higher than in Central America ...

The new results for South America suggest that cocaine use levels could be higher than in Central America. If the data of the individual South American countries are aggregated, the average life-time use of cocaine HCl use among 15-16 year olds amounts to 2.6 per cent (unweighted).

Previous comparative school surveys, undertaken under the auspices of OAS/CICAD in Central America in 2001/02 found an (unweighted) average life-time prevalence rate among 15-16 year old students of 1.5 per cent. Only Guatemala reported above average cocaine use levels (2.3%).[17] The perception of lower levels of cocaine use in Central America could, however, be misleading as one cannot exclude the possibility that cocaine use increased substantially over the last few years in this region.

This might also apply to Venezuela, one of the few South American countries that did not participate in the latest UNODC/OAS/CICAD surveys. Venezuela used to have very low levels of cocaine use among students in 2001/02 (life-time prevalence of 0.4% among 15-16

[15] Only the life-time prevalence rate among 15-16 year old students is discussed here because it forms the best internationally comparable data set. This data set is least biased given differences in school systems across countries.

[16] This is notably the case for Argentina, which reports both, one of the lowest cocaine use levels in its general population household survey (0.3% in 2004), and the highest level cocaine use among secondary school students. In the 1999 general population household survey, Argentina reported the highest level of cocaine use in South America. Another case is Uruguay which also has a high prevalence rate of cocaine use among students, but reports low cocaine use levels among the general population.

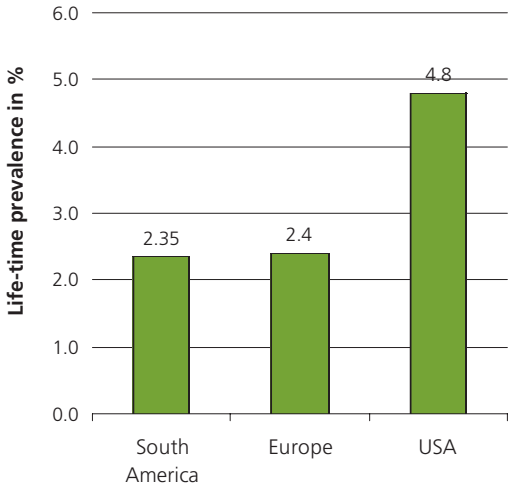
[17] OAS/CICAD, Estudio Comparativo del Consumo de Drogas en Paises Americanos – Basado en Encuestas SIDUC a Estudiantes den enseñanza Media, Washington 2003.

year old students).[18] There is a high probability, however, that cocaine use may have increased substantially over the last few years.

.. and new South American school surveys show levels similar to Europe, though lower than North America

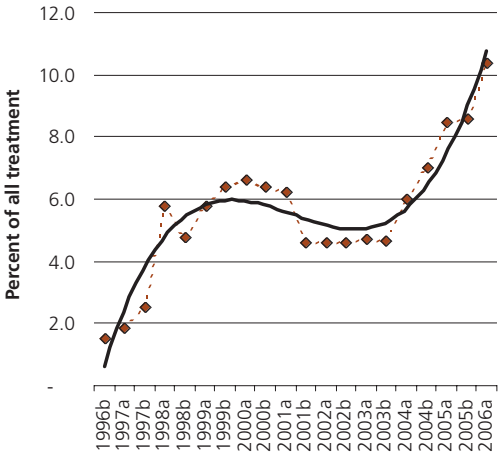
If the data of the individual South American countries are aggregated and weighted by the size of the youth population of each country[19], the average life-time prevalence of cocaine HCl use among 15-16 year olds amounts to 2.35 per cent in South America. This compares with cocaine use levels of 4.8 per cent reported among the same age group (10th graders) in the USA.

Fig. 66: Life-time prevalence of cocaine HCl use among 15-16 year old students in South America (2004-06), Europe (2003-04), and the USA (2006)



Sources: UNODC and CICAD (Sistema Subregional de Información e Investigación sobre Drogas en Argentina, Bolivia, Chile, Ecuador, Perú y Uruguay with participation of SEDRONAR, CONACE, CONALTID, CONSEP, DEVIDA and JND), Jóvenes y Drogas en Países Sudamericanos: un Desafío para las Políticas Públicas - Primer Estudio Comparativo sobre Use de Drogas en Población Escolar Secundaria, 2006, Council of Europe, The ESPAD Report 2003 – Alcohol and Other Drug Use among Students in 35 European Countries), Stockholm 2004 and UNODC, Annual Reports Questionnaire for Spain, 2005) and NIDA, Monitoring the Future.

Fig. 67: South Africa: cocaine as primary drug of abuse in treatment demand*



* unweighted average of treatment (incl. alcohol) in 6 provinces.

Source: SACENDU, Research Brief, Vol. 9 (2), 2006.

Cocaine use thus remains twice as high among students in the USA. Cocaine use levels among students in South America are close to those found in Europe. Europe has an unweighted average of life-time cocaine use among 15-16 year old students of 1.8 per cent (average of 35 countries) and a weighted average[20] of 2.4 per cent.

Cocaine use continues to show an upward trend in Africa ...

The increasing use of African countries for cocaine transshipment could be contributing to rising levels of cocaine use. In 2005, ten African countries reported an increase in cocaine use, up from 8 and 7 in 2004 and 2003 respectively. The number of African countries reporting stable cocaine markets remained unchanged in 2004 and 2005 (9 countries). Not a single African country reported a decline of cocaine use in 2004 or in 2005.

The best documented increases of cocaine abuse are found in South Africa, where the South African Community Epidemiology Network on Drug Use (SACENDU) has been collecting data for the last 10

[18] OAS/CICAD, Estudio Comparativo del Consumo de Drogas en Paises Americanos – Basado en Encuestas SIDUC a Estudiantes den enseñanza Media, Washington 2003.

[19] The weighting was done based on the size of the population age 15-19 in each country.

[20] These calculations are based on the 35 countries participating in the ESPAD School surveys in 2003 as well as Spain. The weighting was done based on the size of the population age 15-19 in each country. (Sources: Council of Europe, The ESPAD Report 2003 – Alcohol and Other Drug Use among Students in 35 European Countries), Stockholm 2004 and UNODC, Annual Reports Questionnaire for Spain, 2005).

[21] Cape Town, Gauteng (which includes the capital Pretoria and Johannesburg), Durban, Port Elisabeth, East London and Mpulanga (the province bordering Swaziland and Mozambique)

years. Data from treatment centers in six locations[21] indicate that cocaine abuse is increasing rapidly across the country. Cocaine related treatment demand as a percentage of all treatment including alcohol - expressed as an unweighted average of the six sites - rose from less than 2 per cent in 1996 to more than 10 per cent in 2006.

The highest proportions related to cocaine abuse over the first two quarters of 2006 (excluding alcohol) were reported for people in treatment in Port Elisabeth (36%) and in East London (28%), followed by Gauteng (21%). Cape Town was the first city to develop a cocaine epidemic in South Africa in the 1990s. In this city, however, methamphetamine has largely replaced cocaine as the drug of choice in recent years so that cocaine now accounts for 9 per cent of treatment demand. Data for the third and fourth quarters of 2006 show that the overall upward trend for cocaine continued.

... a clear upward trend in Europe ...

The most alarming trend with regard to cocaine has been its rapid rise in Europe over the last few years. For the year 2005, 16 countries reported rising levels of cocaine use, 24 a stabilization and only four countries reported a decline.

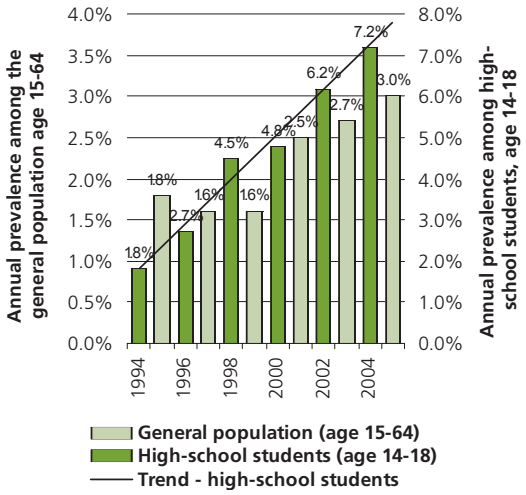
The highest prevalence rates of cocaine use in Europe are found in Spain, which has long been the main entry point of cocaine into Europe. More than one fifth of all European cocaine users are in Spain, where cocaine is the second most widely consumed drug after cannabis. Despite large-scale prevention efforts and a very active law enforcement sector, cocaine use doubled among the general population (age 15-64) from 1.6% in 1999 to 3.0% in 2005.[22] Cocaine use levels in Spain are more than twice the West European average (1.2%) and four times the overall European average (0.75%). For the first time cocaine use levels exceed those reported from the USA.

Estimates of cocaine related problem drug use in Spain remain lower than those reported from the USA (1.4% of the population age 15-64)[23] but they are showing upward trends: 0.2 per cent in 1999, 0.5 per cent in 2002[24] and it is very likely that the rates have continued rising since. School surveys conducted in Spain have already shown slightly higher use levels since 2002, and they continue to show upward trends.

In parallel, cocaine related treatment demand is increasing. It accounted for 40.5 per cent of all treatment demand in Spain in 2004 – by far the highest such proportion in Europe - up from 25.4 per cent in 2002. In contrast to the rest of Europe, cocaine related treatment in Spain is now only slightly less than opiate related treatment (44.5% in 2004). In absolute numbers, cocaine related treatment demand doubled, from 11,900 in 2002 to 21,400 in 2004.[25] In Catalonia and in Valencia, cocaine related treatment already exceeds heroin related treatment[26] which is unique for Europe.

Cocaine use has also increased in the United Kingdom which has Europe's second highest cocaine prevalence rates. In absolute numbers, estimates suggest that the UK's cocaine market (some 910,000 people) is even marginally larger than the market in Spain (some 890,000 people). Annual prevalence rates of cocaine use increased - according to British Crime survey data –

Fig. 68: Annual prevalence of cocaine use in Spain among the general population and among high-school students, 1994-2005



Source: Ministerio de Sanidad y Consumo, Plan Nacional Sobre Drogas

[22] UNODC, Annual Reports Questionnaire Data.

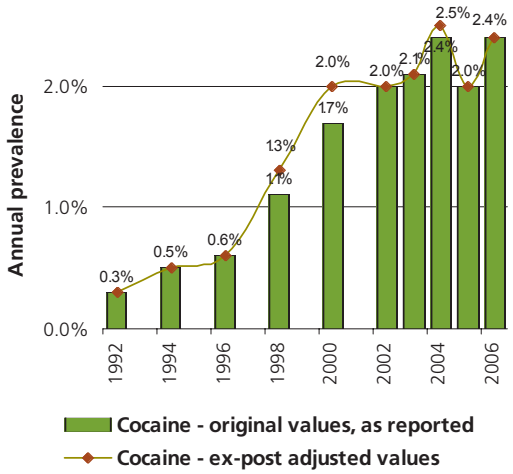
[23] ONDCP, 2003 National Drug Control Strategy, Data Supplement.

[24] EMCDDA – Reitox National Focal Point 'Spain', 2005 National Report to the EMCDDA - New Development, Trends and in-depth Informa tion on Selected Issues, Madrid 2006.

[25] UNODC, Annual Reports Questionnaire Data.

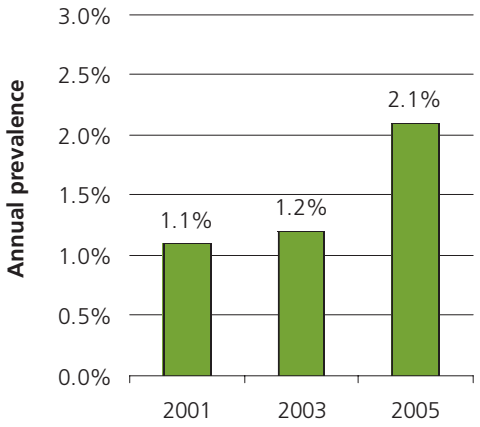
[26] EMCDDA – Reitox National Focal Point 'Spain', 2005 National Report to the EMCDDA - New Development, Trends and in-depth Informa tion on Selected Issues, Madrid 2006.

Fig. 69: England & Wales: annual prevalence of cocaine use among the general population (age 16-59)



Source: UK Home Office, British Crime Survey, 2005/06 and previous years.

Fig. 71: Italy: annual prevalence among the general population*



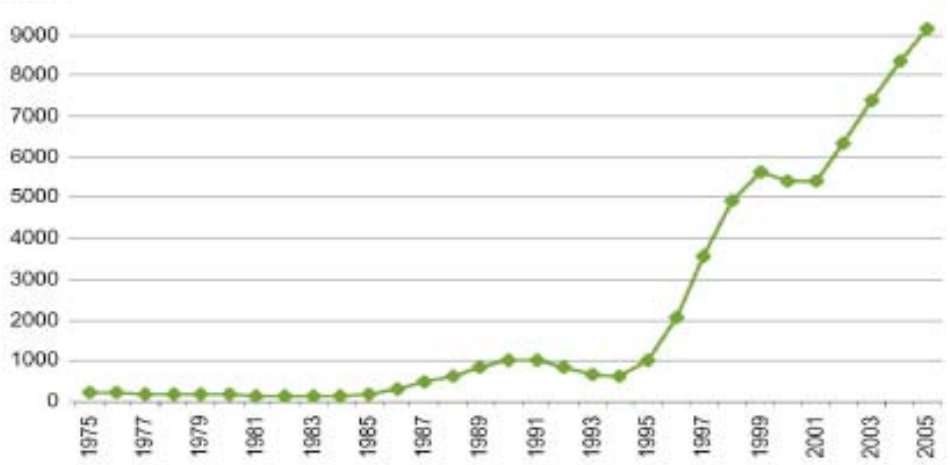
* 2001: age group: 15-45; 2003: age group 15-54: 2005 age group: 15-64

Source: UNODC, Annual Reports Questionnaire Data.

four-fold over the last decade, from 0.6% in 1996 to 2.4% of the population age 16-59 in 2006.[27] Most of the increase, however, took place in the second half of the 1990s. The highest cocaine use levels are reported from London (4.1%) and the lowest from Wales (1.6%) and Yorkshire (1.8%).[28] Scotland – which is not included in the survey mentioned above – had a lower prevalence rate (1.5% in 2004) as did Northern Ireland (1.1% in 2004). If these data are aggregated, the annual cocaine prevalence rate for the United Kingdom amounts to 2.3 per cent of the population age 16-59. Cocaine is now the second most widely used illegal drug in the UK after cannabis.

Italy is the third largest cocaine market in Europe. The country has seen some of the strongest increases of

Fig. 70: Incidence of cocaine use in Italy, 1975-2005



Source: Istitute de Fisiologia Clinica, Concisglio Nazionale delle Ricerche.

27 The survey was conducted over the period April 2005 to March 2006.

28 Home Office, Home Office Statistical Bulletin, Drug Misuse Declared: findings from the 2005/06 British Crime Survey, October 2006.

cocaine use in recent years, with the annual prevalence of cocaine use rising from 1.1% in 2001 to 2.1% of the general population in 2005. Cocaine is the second most widely used drug among the general population after cannabis.

The incidence of cocaine use (i.e. the number of persons using it for the first time) increased from levels around 1,000 persons/year in the first half of the 1990s to 9000 persons in 2005. The increase of cocaine use in Italy went hand in hand with strongly falling cocaine prices –a clear indication that a rise in trafficking of cocaine into Italy played a role in the expansion of the market. The involvement of organized crime in Naples (known as the 'Camorra' or 'the system'), is thought to have actively worked towards the expansion of the cocaine market in Italy, thus offsetting the prevention efforts undertaken by the authorities. With some 800,000 persons, Italy accounts for almost a fifth of the total European cocaine market. Cocaine abuse is particularly widespread in north-western Italy (Lombardia) as well as in the central provinces along the coast from Naples to Genova.

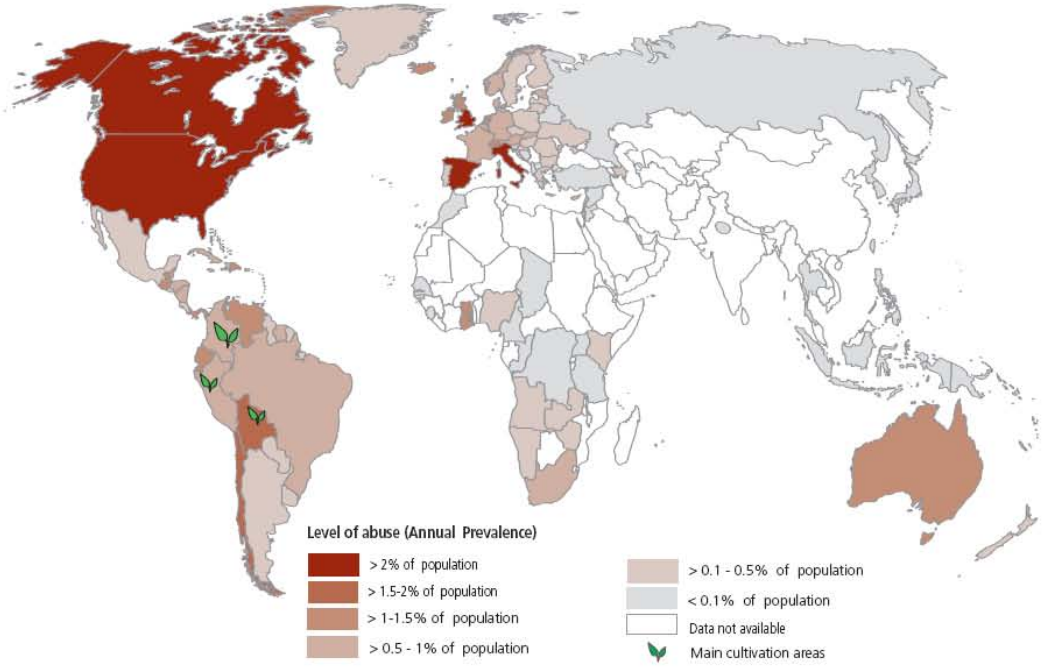
No new prevalence data is available from Germany, the fourth largest cocaine market in Europe (approximately 240,000 persons). According to the last household survey, conducted in 2003, the prevalence rate was 1% of the population age 18-59. Cocaine is the second most widespread drug among the general population after cannabis. The German authorities, in contrast to many other European countries, perceived cocaine consumption levels to have remained stable over the last few years following strong growth rates in the 1990s (starting from 0.2% in 1990).

Clear increases in cocaine use - though starting from far lower levels - have been also reported by France, Europe's fifth largest cocaine market (some 240,000 people). Between 2000 and 2005, the annual prevalence of cocaine use tripled from 0.2% to 0.6% of the population age 15-64.

… and a clear persistent East-West divide in Europe

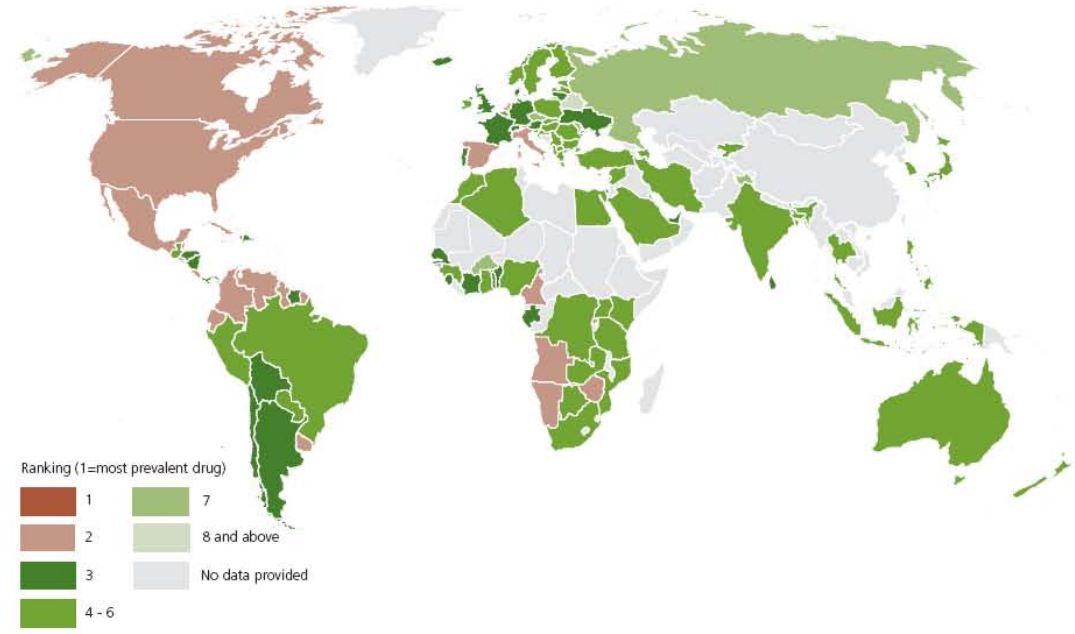
In terms of cocaine use among the general population, there is still a strong east-west divide in Europe. Ninety-five per cent of all cocaine users are found in the countries of Western Europe (EU-15 and EFTA countries).

Map 12: Abuse of cocaine 2005 - 2006 (or latest year available)



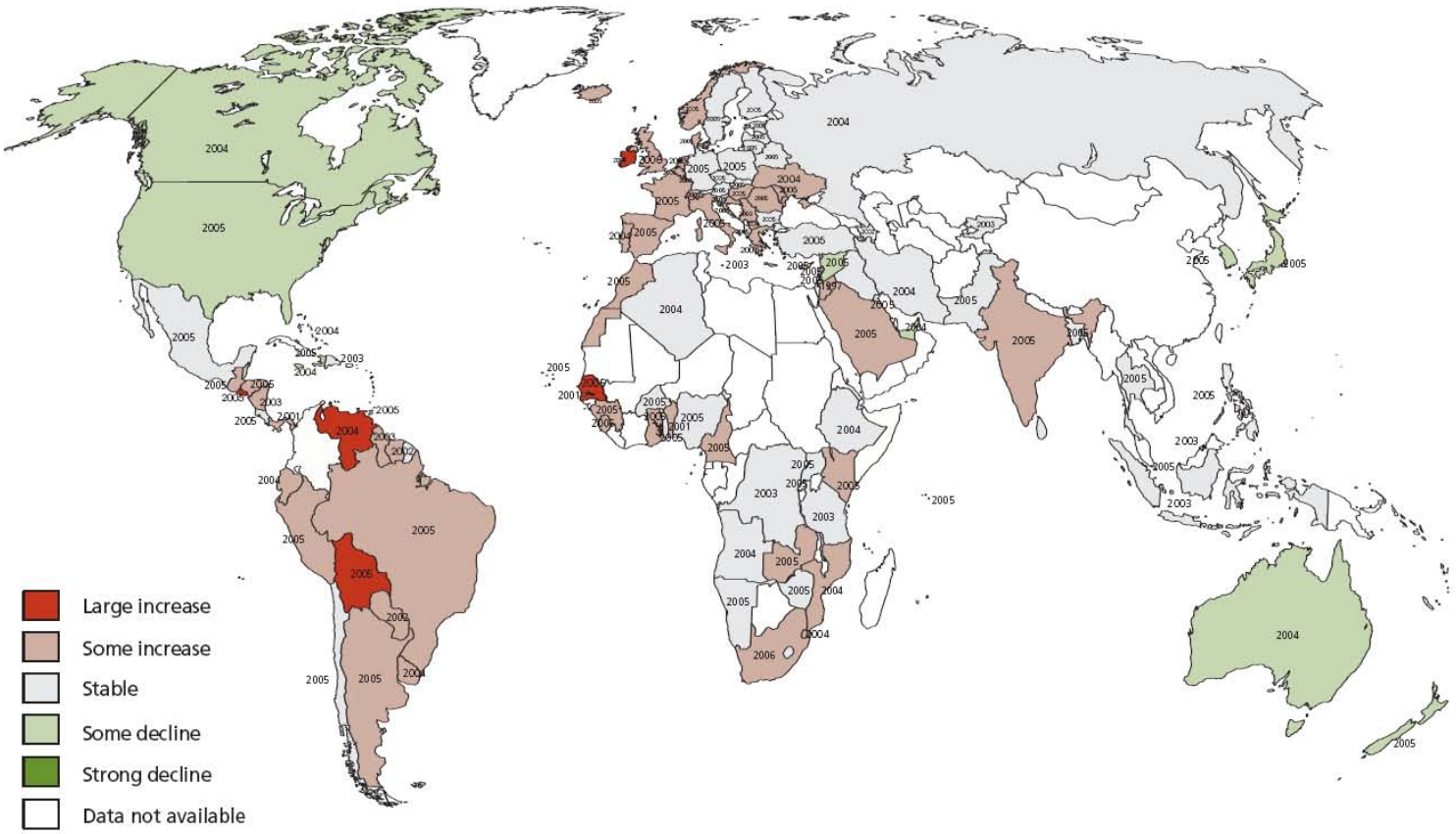
Source: UNODC Annual Reports Questionnaires data, National Household Surveys submitted to UNODC, United States Department of State (Bureau for International Narcotics and Law Enforcement Affairs) International Narcotics Control Strategy Report; law enforcement reports, reports from epidemiological networks, UNODC Global Assessment Programme on Drug Abuse (GAP)

Map 13: Ranking of cocaine in order of prevalence, 2004 - 2006



Source: UNODC Annual Reports Questionnaires data/DELTA; Government Reports, US Department of State; European Monitoring Centre for Drugs and Drug Addiction (EMCDDA); Drug Abuse Information Network for Asiaand the Pacific (DAINAP); UNODC Global Assessment Programme on Drug Abuse (GAP), Inter-American Drug Abuse Control Commission (CICAD)

Map 14: Changes in the use of cocaine, 2005 (or latest year available)



Source: UNODC Annual Reports Questionnaires data, National Household Surveys submitted to UNODC, United States Department of State (Bureau for International Narcotics and Law Enforcement Affairs) International Narcotics Control Strategy Report; law enforcement reports, reports from epidemiological networks, UNODC Global Assessment Programme on Drug Abuse (GAP)

1.4 Cannabis Market

1.4.1 Summary trend overview

Cannabis is the largest illicit drug market by far and its size is one of its most important characteristics. Its consumer market is large, roughly 160 million people; its production centres are widely dispersed, existing in almost every country in the world and its factors of production can be both flexible, rudimentary and small scale and permanent, highly technical and large scale. The widespread nature of production and consumption make it very difficult to define and quantify. The consumer market for cannabis is also different. The size of the consumer market for cannabis could imply that consumers are more varied.

Production is pervasive. A total of 82 countries explicitly reported the illicit cultivation of cannabis on their territory over the 1995-2005 period. In addition, Member States identified 134 source countries for the production of cannabis. Moreover, 146 countries reported seizing cannabis plants over the 1995-2005 period, which is an indirect indicator for the existence of cannabis plant production in a country, as cannabis plants are usually not trafficked across borders (only the end-products; cannabis herb, cannabis resin or cannabis oil). Combining these data suggests that cannabis production is taking place in at least 172 countries and territories.

Although the insidiousness of cannabis renders effective monitoring of the supply side difficult, it is probable that the expansion of cannabis production ceased in 2005. Indications of an overall stabilisation in the market are extremely encouraging but whether this is sustainable or not will need to be confirmed with data from the next few years.

Some aspects of this market are evolving. Indoor cultivation is expanding in general and as this occurs several 'consumer countries' have emerged as important cannabis producing countries – supplying their local markets (at least to a limited extent). As this happens, the overall potency of cannabis (i.e. the THC content as engineered through horticultural innovations) has been rising in several countries.

The production of cannabis resin, also known as hashish is concentrated in North Africa (Morocco) and in the South-West-Asia / Middle East region, particularly in Afghanistan and Pakistan.

In Morocco, UNODC surveys, conducted in collaboration with the authorities, revealed a fall in the area of cannabis resin cultivation from a peak of 134,000 ha in 2003 to 76,400 ha in 2005. Moroccan cannabis resin production, for years the main source of hashish for Western Europe, declined even more strongly, from 3,070 mt in 2003 to 1,070 mt by 2005.

Cannabis herb seizures continue to be mainly concentrated in North America (66% of global seizures in 2005), followed by Africa (16%). Global seizures of cannabis herb showed a strong increase over the 2000-2004 period, a probable reflection of rising cannabis herb production, trafficking and consumption. However, in 2005, cannabis herb seizures declined substantially to the levels reported back in 2000. The decline was reported across all continents. The factors which provoked this decline are not fully known; but eradication seems to have played a critical role.

Global cannabis resin seizures also declined in 2005 due to lower production of cannabis resin in Morocco. The world's largest cannabis resin seizures continued to be reported by Spain (52% of global hashish seizures in 2005), followed by Pakistan (7%) and Morocco (7%).

The consumer markets in North America appear to have contracted, but there has been an increase of cannabis use in Africa and in most countries of South America. The situation in Europe is mixed. A decline of cannabis use was found in the Oceania region, which has the world's highest levels of prevalence rates for cannabis. Countries of East & South-East Asia showed stable or declining cannabis consumption trends while in South-Asia, South-West Asia and Central Asia the reported trends suggest an increase.

The number of countries reporting increases in cannabis use fell from 56 per cent in 2000 to 49 per cent in 2005, while the number of countries reporting declines increased from 11 per cent in 2000 to 18 per cent in 2005.

1.4.2 Production

Cannabis cultivation remains pervasive throughout the globe

The pervasiveness of cannabis persists. Between 1995-2005, 82 countries provided UNODC with cannabis cultivation or production estimates. Unfortunately, reporting on cannabis cultivation is complex and resource intensive for a number of reasons and many countries do not have the capacity or resources ot make estimations. Consequently, UNODC also analyses seizure reports which sometimes identify the source of cannabis trafficked in a country. On this basis, 134 producer countries were identified over the 1995-2005 period. A third list of producer countries was generated by singling out those that reported the seizure of cannabis plants. The inefficiency of transporting whole plants internationally (as only some parts are useable as a drug) means that when whole plants are seized, it is very likely that they were locally produced. Seizures of whole cannabis plants were reported in 146 countries over the 1995-2005 period.

Combining the three lists of estimates, 172 countries and territories can be identified where cannabis is pro-

Cannabis continues to be the most widely produced, trafficked and consumed drug worldwide. It is produced for basically three different end products:

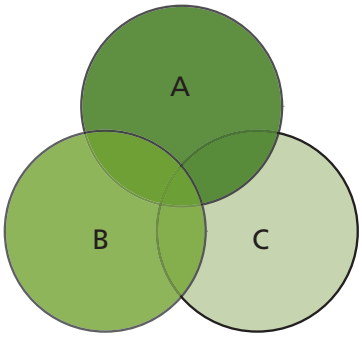
- Cannabis herb is comprised of the flowering tops and leaves of the plant, which are smoked like tobacco using a variety of techniques. Depending on the region, cannabis herb is known under many different names, including 'marijuana' (Americas; also referred to as 'grass', 'weed', 'ditch' or 'dope'), 'ganja' (South-Asia / Jamaica), 'dagga' (South Africa), 'dimba' (West Africa) or 'chira' (North Africa; usually cannabis resin powder). A very potent form of cannabis herb is sinsemilla, the floweringn tops the unpollinated female plant. Cannabis herb accounted for 77 per cent of global cannabis seizures in 2005.
- Cannabis resin consists of the secretions of the plant emitted in the flowering phase of its development. Depending on the region, cannabis resin is known as 'hashish' (North Africa / Europe) or as 'charas' (South-Asia). It accounted for close to 23 per cent of global cannabis seizures in 2005.
- Cannabis oil (hashish oil) is an oily mixture resulting from extraction or distillation of THC rich parts of the cannabis plant. It is less widely used, accounting for 0.01 per cent of all cannabis seizures in 2005.

In addition, a number of cannabis combinations are found on the markets, such as:

- 'Kif' (North-Africa), often understood to mean the chopped flowering tops of the female cannabis plant, mixed with tobacco, or 'Bhang' (South-Asia), often understood as a beverage prepared by grinding cannabis leaves in milk and boiling it with spices and other ingredients; or 'White pipe' (South Africa), the smoking of cannabis herb in combination with tobacco and Mandrax (consisting of methaqualone as the active ingredient and antihistamines). Various combinations of cannabis with other drugs such as cannabis/cocaine and cannabis/amphetamine, are reported inter alia from Eastern Africa. The combinations usually carry region/country specific or local names. [1]

[1] In some parts of North America, for instance, the following combinations are found: 'Candy sticks: cannabis herb cigarettes laced with cocaine; 'Buddha': cannabis herb spiked with opium; 'Ace' or ' Zoom' : cannabis herb mixed with PCP, etc.; use of cannabis in food items (e.g. in North Africa'); 'Marijuana brownies' (e.g. in North America); as well as frequent use of both cannabis and alcohol (often reported from Europe and Australia).

Fig.71: Number of countries/territories identified as cannabis producers (1995-2005): N = 172

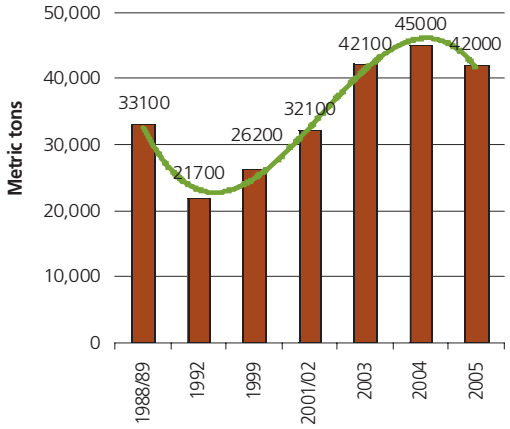


A: 82 countries/territories providing cultivation/production estimates

B: 134 countries/territories identified as source countries for cannabis that was trafficked

C: 146 countries reporting the seizure of whole cannabis plants

Fig. 72: Estimates of global cannabis herb production, 1988-2005



Sources: UNODC, Annual Reports Questionnaire Data and Govt. reports.

duced, equivalent to close to 90 per cent of the countries & territories which receive UNODC's Annual Reports Questionnaire (190-195).[2]

The analysis of the reported source countries (ARQ, 2002-2006 period) suggests that cannabis resin production takes place in some 58 countries while cannabis herb (marijuana) production occurs in at least 116 countries. The caveat here is that cannabis herb is thought to be "produced" even in countries where the main supply concentrates on resin. Cannabis herb production is globally far more dispersed than global cannabis resin production.

1.4.2 Cannabis herb production

Global production of cannabis herb is estimated to have declined to 42,000 mt in 2005

Based on information collected from Member States, UNODC estimates global cannabis herb production at 42,000 metric mt in 2005, dwarfing global heroin production (472 mt in 2005) or global cocaine production (980 mt in 2005). This represents a decline of almost 3,000 mt (-7%) over 2004. While these data must be interpreted with caution, they seem to signal, that the upward trend in herb production observed since the early 1990s, may be coming to a halt. The cannabis herb estimate suggests that 10.6 per cent of cannabis herb production was seized in 2005.

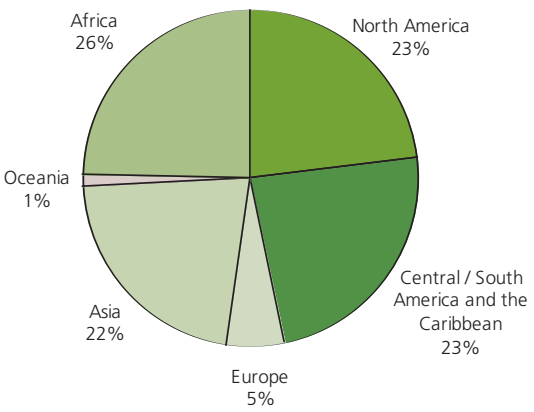
The area under cannabis cultivation is estimated to have amounted to 530,000 ha in 2005, which was again far more than the area under poppy cultivation (151,500 ha) or the area under coca cultivation (159,600 ha in 2006).[3]

The yields reported by Member States varied substantially, from as low as 5 kg/ha to 17,500 kg/ha. This is a reflection of the wide ranges of cannabis yields, e.g. from wild cannabis to hydroponically grown cannabis. Within reported estimates the median cannabis yield was 730 kg/ha and the (unweighted) average yield was 2,070 kg/ha. Despite the large difference, such yield fig-

[2] Cannabis production estimates must be viewed with caution: Although, production estimates for cannabis are systematically collected by UNODC from Member States as part of the replies to the annual reports questionnaire (ARQ), the lack of clear geographical concentrations of cannabis production (as with opium poppy or coca bush) makes it impracticable to introduce scientifically reliable crop monitoring systems. The fact that cannabis is a plant that grows in virtually every inhabited region of the world, that it can be cultivated with little maintenance on small plots, and that it can be also grown indoors, complicates matters. Resulting variations in cannabis yields are also huge. The majority of individual country estimates are thus still based on expert opinion, rather than on the results of scientific crop monitoring systems. Nonetheless, given a number of innovative approaches introduced by UNODC in recent years to arrive at estimates for countries that did not provide any estimates (see section on methodology), the resulting global estimates should provide, at least, reasonable orders of magnitude of the problem. As the methodology used to arrive at the estimates has remained basically the same in recent years, and as one should not under-rate the expertise of the authorities to come up with reasonable estimates (even without detailed surveys), one may assume that resulting changes in the global production estimates basically reflect underlying changes in cultivation and production. The fact that global cannabis production estimates largely mimic global seizures tends to support this view.

[3] The estimate of area under cultivation for cannabis herb includes some, but not all, wild cannabis. Were there any practical way to measure wild cannabis this figure would be much higher.

Fig. 73: Breakdown of global cannabis herb production in 2005 (N = 42,000 metric tons)



Sources: UNODC, Annual Reports Questionnaire Data and Govt. reports.

ures are consistent with those reported in UNODC's last extensive survey of the global cannabis market[4]. That study suggested that typical yields for cultivated outdoor cannabis range from 470 kg/ha in non-irrigated areas to 5,000 kg/ha in well tended gardens, with figures around 2,000 kg/ha typical for the situation in the USA[5], and levels around 1,000 kg/ha typical for the situation in developing countries. In contrast, the yields of hydroponically grown cannabis ranged from 15,000 to 30,000 kg per hectare.

In 2005 the bulk of cannabis herb was produced in the Americas (46%) and in Africa (26%), followed by countries in Asia and in Europe. Internationally, most cannabis herb was produced for the domestic market and/or for exports to neighbouring countries. Countries in which cannabis is produced for extra regional export are limited. They include a number of West, South and North African countries (including South Africa, Nigeria and Morocco) and few East, West and Central Asian countries (including Thailand, Pakistan and Kazakhstan). Most of these exports are destined for Europe.

Production by region

The largest producers in North America continue to be Mexico and the United States of America followed by Canada. Estimates made available to UNODC suggest that Mexico and the USA may be the world's largest cannabis herb producers. Production in Mexico is mainly concentrated in states along the Pacific coast (Sinaloa, Miachoacán, Guerrero, Jalisco, Oaxana and Nayarit) which account for about 53 per cent of total cannabis eradication, and in the Center/North region (Chihuahua, and Baja California), where 42 per cent of cannabis eradication took place in 2005. Cannabis production in the USA is particularly widespread in the states of California, Kentucky, Tennessee, Hawaii, and Washington.[6] Cannabis production in Canada is mainly concentrated in British Colombia (40%), Ontario (25%) and Quebec (25%).

Cannabis production takes place in practically all countries in South America and the Caribbean. The largest producers in South America are Paraguay, followed (now) at far lower levels, by Colombia, Brazil and the Caribbean region. Declines of cannabis production in Colombia in recent years appear to have been offset by increases in other parts of South America, notably in Paraguay. Though Brazil is an important cannabis producer, it is not 'self-sufficient' so that large quantities are trafficked from Paraguay into that country. Frequently mentioned source countries in the Caribbean region are St. Vincent & the Grenadines as well as Jamaica. Guatemala is frequently cited as a source country for cannabis from Central America.

Cannabis is grown in almost all of the countries of Africa. The largest cannabis herb producers in Africa include South Africa (as well as a number of other countries in the region, including Malawi, Zambia and Swaziland), Nigeria, Ghana & several other West-African countries (including Benin and Togo), the Democractic Republic of the Congo in central Africa, Tanzania in eastern Africa as well as Morocco in northern Africa (though the latter country is mainly known as a cannabis resin producer).

Despite growing levels of domestic production, Europe remains a region which still relies, to a significant extent, on the importation of cannabis. The largest cannabis producers in Europe are Albania and the Netherlands, though significant amounts are also being produced in most other European countries, including Germany, Switzerland and the UK.

The largest cannabis producers among the C.I.S countries are Kazakhstan, the Russian Federation and Kyrgyzstan. The Russian Federation and Kazakhstan contain the world's largest areas of wild cannabis.

The largest producers in the Near East & South-West Asia region are Afghanistan, followed by Lebanon and

[4] UNODC, *2006 World Drug Report*, Vol. 1, pp. 193-195.

[5] As identified through the analysis of data from court cases

[6] National Drug Intelligence Center, *National Drug Threat Assessment 2007*, October 2006

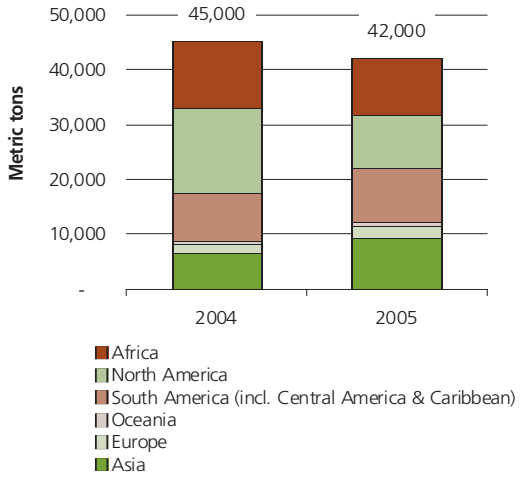
Pakistan (in all of these countries, however, cannabis herb production is far less important than the production of cannabis resin). Important producers in South-Asia are India, Nepal and Sri Lanka; and important producers in South & South-East Asia include the Philippines and Indonesia, followed, at lower levels, by Thailand. The largest cannabis producer in the Oceania region is Australia.

Changes in the regional breakdown suggest that cannabis production increased in Asia, Europe and South America (including Central America and the Caribean) but declined in North America and in Africa.

The decline of cannabis production in North America was mainly due to lower cannabis production levels in Mexico, which reflect the strong eradication efforts made in that country. Mexico has been extremely efficient in eradicating cannabis, having eradicated some 85 per cent of the area under cultivation. The net area under cultivation thus declined by 23 per cent in 2005 (from 7,500 to 5,800 ha) with a further decline reported for the year 2006 (to 5,600 ha). Given differences in yield estimates, production estimates for Mexico range from 4,480 mt to 10,100 mt[7] (for 2005).

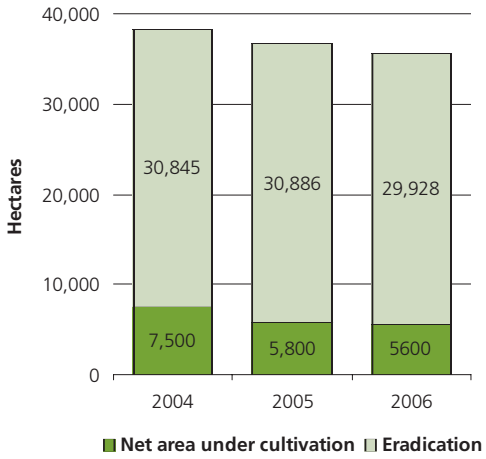
In parallel, cannabis eradication efforts in the USA were significantly stepped up in recent years. According to data of the Domestic Cannabis Eradication/Suppression Program the number of eradicated cannabis plants in the USA rose from 3.2 million in 2004 to 4.2 million in 2005 (+31%) and 4.9 million plants (+17%) in 2006. Including eradication efforts made by other government agencies, total eradication amounted to 6.3 million plants in the USA in 2006. Applying the DEA estimate of, on average, 1 pound of cannabis herb per plant[8], eradication may have removed some 2,825 mt from the US market in 2006, i.e. more than is produced in most other countries of the world. Law enforcement reports indicate that between 30 and 50 per cent of all cannabis grown in the USA is now being eradicated.

Fig. 74: Regional breakdown of global cannabis herb production in 2004 and in 2005



Sources: UNODC, Annual Reports Questionnaire Data and Govt. reports

Fig. 75: Area under cannabis cultivation in Mexico, 2004-2006



Sources: US State Dept., 2007 International Narcotics Control Strategy Report and UNODC, Annual Reports Questionnaire Data.

[7] No official Mexican cannabis production estimates exist. The first estimate is based on INCSR cultivation estimates and a yield figure of 800 kg/ha, provided to UNODC by the Mexican authorities; the second figure reflects the US INCSR estimate for cannabis production in the year 2005. (US State Department, *International Narcotics Control Strategy Report*, March 2007).

[8] The DEA (US Drug Enforcement Agency) ratio of 1 pound (448 grams) per plant has been widely used in the USA. In contrast, the United States Sentencing Commission has identified a 100 grams a plant figure to be more appropriate when looking at mixed gender crops. "The one plant = 100 grams of marijuana equivalency used by the Commission for offenses involving fewer than 50 marihuana plants was selected as a reasonable approximation of the actual yield of marihuana plants taking into account (1) studies reporting the actual yield of marijuana plants ... (2) that all plants regardless of size are counted for guideline purposes (while, in actuality, not all plants will produce useable marijuana) ...; and (3) that male plants, which are counted for guideline purposes, are frequently culled because they do not produce the same quality of marijuana as do female plants." Federal Register 60 (May 10, 1995): 25078. This figure was extended to all crops, including those involving more than 50 plants. See also United States Sentencing Commission, 1995 Annual Report, p. 148. USSG SS 1B1.10, 2D1.1(c)(E) (Nov. 1995). DEA and the National Drug Intelligence Center of the US Department of Justice, however, continue using a yield figure of 1 pound per plant. (U.S. Department of Justice, National Drug Intelligence Center, *Domestic Cannabis Cultivation Assessment 2007*.)

Table. 10: Number of cannabis plants eradicated in the USA, 2000 -2006

	2000	2001	2002	2003	2004	2005	2006
Outdoor[a]	2,597,798	3,068,632	3,128,800	3,427,923	2,996,225	3,938,151	4,083,433
Indoor[a]	217,105	236,128	213,040	223,183	203,896	270,935	403,322
Total[a]	**2,814,903**	**3,304,740**	**3,341,840**	**3,651,106**	**3,200,121**	**4,209,086**	**4,486,755**
Outdoor[b]	-	-	-	-	-	5,546,509	5,901,800
Indoor[b]	-	-	-	-	-	270,935	403,322
Total[b]	-	-	-	-	-	5,817,444	6,305,202
Source: [a]Domestic Cannabis Eradication/Suppression Program.							
Source: [b]Domestic Cannabis Eradication/Suppression Program & U.S. Department of the Interior & U.S. Department of Agriculture and Forest Service.							

Rising levels of eradication in the USA have been interpreted by some analysts as an indication of growing levels of cannabis cultivation[9]. There has been an increase in indoor cultivation, with the proportion of eradicated indoor cannabis rising from 4.7 per cent in 2005 to 6.4 per cent of all eradicated cannabis in 2006. Taking only the data from the DEA's Domestic Cannabis Eradication/Suppression (DCE/SP) Program, the proportion of indoor cultivation rose from 6.4 per cent in 2005 to 9 per cent in 2006. Moreover, the actual identified locations where cannabis is grown (and eradicated) suggest that cannabis cultivation has been spreading to more remote areas, including national parks. In fact, the DEA's DCE/SP program has forced many traffickers to abandon large outdoor marijuana plots in favour of smaller, better concealed illicit gardens[10]. Rapidly rising levels of eradication thus may have contributed to a stabilization, or even a reduction, in overall US cannabis production. While US seizure data for the 2002-2005 period point to a stabilization, US demand data indicate a reduction. Published US cannabis production estimates also point to a stabilization or reduction. Estimates for the year 2002 suggested that cannabis herb production ranged from 5,580 to 16,730 mt[11] with a mid-range estimate of 11,150 mt. After deducting eradication, this would leave net production of close to 10,000 mt. The 2006 estimates ranged from 5,650 to 9,420 mt with a mid range estimate of some 7,530 mt. Estimates of net production (after eradication) ranged from 2,830 to 6,590 mt[12] with a mid-range estimate of 4,710 mt.

In 2005, following several years of strong increases, the US authorities also reported slightly less trafficking of cannabis via Canada into the USA.[13] This could indicate that cannabis production stabilized, or even declined slightly, in Canada, following large production increases in previous years: between 2000 and 2004 production in Canada more than doubled[14]. The Royal Canadian Mounted Police estimate a marijuana production of 800 to 2,000 mt[15]. Other estimates see the level of cannabis herb production at between 960 and 2,400 mt in Canada.[16] All of these estimates suggest that while

[9] U.S. Department of Justice, National Drug Intelligence Center, *Domestic Cannabis Cultivation Assessment 2007*.

[10] ONDCP, *National Drug Control Strategy*, Feb. 2007.

[11] Drug Availability Steering Committee, Drug Availability Estimates in the United States, December 2002 and Office on National Drug Control Policy, *National Drug Control Strategy*, Feb. 2003.

[12] U.S. Department of Justice, National Drug Intelligence Center, *Domestic Cannabis Cultivation Assessment 2007*.

[13] The total marijuana seizures in the northern border states of the USA increased from 13.6 mt in 2002 to 31.4 mt in 2004 but then declined again to 26.4 mt in 2005. See National Drug Intelligence Centre, *2007 National Drug Threat Assessment, Oct. 2006*

[14] According to Government of Canada estimates, cited by the US Drug Intelligence Centre, production in Canada more than doubled from 2000 through 2004 (National Drug Intelligence Centre, *2007 National Drug Threat Assessment*, Oct. 2006).

[15] There estimates were, inter alia, based on seizures of, on average, 1.1 million cannabis plants per year; see Royal Canadian Mounted Police, Drug Situation in Canada in 2003, Ottawa, July 2004; see also National Drug Intelligence Centre, *National Drug Threat Assessment 2005*, Feb. 2005.

[16] Public Safety Canada, *Canada-United States Border Drug Threat Assessment*, Oct. 2004.

cannabis production in Canada is important it remains significantly lower than in the USA or in Mexico. Canada is, however, an important source country for high THC cannabis consumed and trafficked into the USA. Such cannabis production in Canada is controlled by Asian crime groups (often ethnic Chinese and Vietnamese). Some of these groups are thought to have relocated their indoor activities into the US[17]Pacific Northwest and to California[18], in order to avoid tightened border controls.

Despite some increase of cannabis herb production in South America (including Central America and the Caribbean), the overall proportion of cannabis herb production in the Americas declined from 54 per cent to 47 per cent of global production in 2005. This pattern of growing production in South America and declining production in North America is inconsistent with the long-term trend which shows strong increases in the North American proportion of global production.

Cannabis production in Africa appears to have declined slightly in 2005. This is also in contrast to a long-term trend which showed strong increases of cannabis production in that continent. The current estimate suggests that Africa accounts for 25 per cent of global cannabis herb production in 2005, slightly down from 26 per cent in 2004. The decline of cannabis cultivation in Africa has been mainly due to reductions reported from Morocco (though most of this cannabis is used for cannabis resin production). The area under cannabis cultivation in Morocco, as identified in joint UNODC and Government of Morocco surveys (based on remote sensing techniques), declined by 37 per cent on a year earlier in 2005. This followed a decline of 10 per cent in 2004. In addition, eradication efforts in Nigeria, one of the main cannabis producing countries in Western Africa, dramatically increased. After having eradicated 255 ha of cannabis in 2004, the Nigerian authorities reported the eradication of 14,316 ha in 2005 - which is close to half the size of the eradications reported from Mexico. This downward trend is not uniform in Africa with several other countries reporting increases. Overall cannabis production in Africa is expected to resume its expansionary trend shortly.

Cannabis production reported from Asia is increasing. The proportion of Asia in global cannabis production increased from 15 per cent in 2004 to 22 per cent in 2005, with a significant increase reported from Afghanistan, where the area under cannabis cultivation is partially surveyed as a part of UNODC's annual opium surveys. Results are based on farmers' reports of the areas cultivated. Most of the cannabis cultivation in Afghanistan is produced as cannabis resin.

Cannabis herb production also increased in Europe, with Europe's share in global cannabis herb production rising from 3 per cent in 2004 to 5 per cent in 2006. The increase in domestic production of cannabis herb in Europe seems to have offset some of the decline of cannabis resin imports from Morocco. Understanding how this happened could yield some interesting and important information on the cannabis market.

4.2.2 Cannabis resin production

Geographically, the production of cannabis resin is far more concentrated than production of cannabis herb. The world's largest cannabis resin producer continues to be Morocco, supplying the illicit markets of North Africa and Western Europe. Western Europe is the world's largest market for cannabis resin, accounting for some 70 per cent of global resin seizures in 2005; North Africa accounts for another 8 per cent.

The importance of Morocco as a source country for cannabis resin is, however, declining. In 2003, the year of the first UNODC/Government of Morocco survey total resin production amounted to 3,060 mt, cultivated on 134,000 ha of land in the Rif region of northern Morocco by some 96,600 families. The 2004 survey showed a 10 per cent decline in land under cannabis cultivation (120,500 ha), with an estimated production of 2,760 mt.[19] In 2005 cultivation declined further to 72,500 ha, and production fell to 1,066 mt[20], reflecting the intensified efforts of the Moroccan authorities to eliminate cannabis production from their territory. Cannabis resin production in Morocco is concentrated in the provinces of Chefchaouen (56 % of total in 2005), Taunate (17 %) and Al Hoceima (16 %).

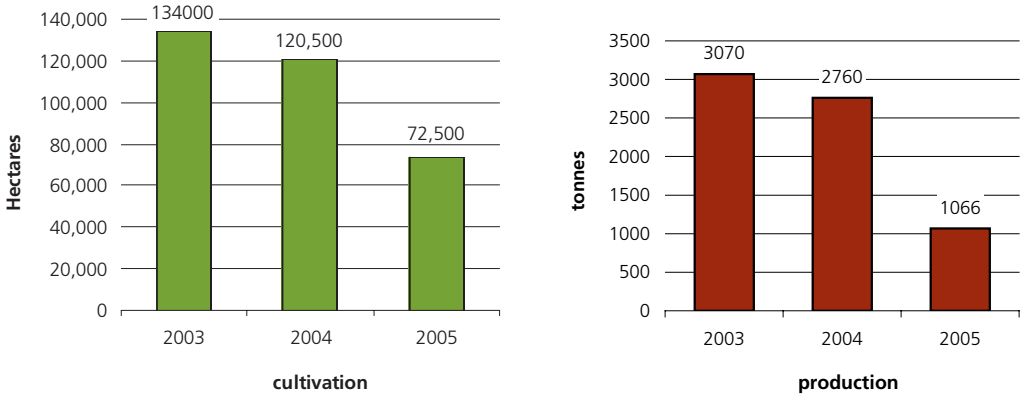
[17] U.S. Department of Justice, National Drug Intelligence Center, Domestic Cannabis Cultivation Assessment 2007, Oct. 2006 and ONDCP, National Drug Control Strategy, Feb. 2007.

[18] U.S. State Department, 2007 International Narcotics Control Strategy Report, March 2007.

[19] Some of the decline appears to have been a consequence of an earthquake, resulting in increased attention being given by the national authorities and the international community to the region concerned.

[20] UNODC, Morocco Cannabis Survey 2005, Executive Summary 2005, June 2005.

Fig. 76: Morocco – cannabis cultivation and production, 2003-2005



Source: UNODC/Government of Morocco, Maroc, Cannabis Survey 2005, Jan. 2007 and previous years.

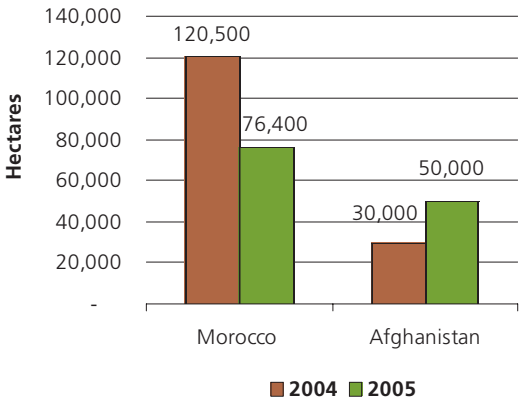
The decline of the importance of Morocco is also reflected in the number of countries citing Morocco as the source country of the cannabis resin found on their markets. Over the 1999-2003[21] period 31 per cent of countries reporting the origin of cannabis resin cited Morocco as the origin of the hashish found on their markets. By 2005, the proportion of Morocco (including the subsequent transit countries, Spain and Portugal) fell to 20 per cent, reflecting the massive decline of Moroccan cannabis resin production in recent years.

Reports of country of origin are based on the information from 40 countries responding to this part of the Annual Reports Questionnaire in 2005. In order to expand the information base for the analysis of the importance of less frequently mentioned producer countries, the time period was increased to the 2003-05 period. This raised the information base to a sample of 61 countries (equivalent to almost a third of all countries). Considering the broader 2003-2005 period, 27 per cent[22] of countries cited Morocco as the main source country of the cannabis resin encountered on their domestic market.

The next most frequently mentioned countries were Afghanistan/Pakistan, accounting for 8 per cent of such mentions. Overwhelmingly, cannabis cultivation in these countries is for the production of cannabis resin. UNODC's estimates suggest that the area under cannabis cultivation in Afghanistan increased from 30,000 ha in 2004/05 to 50,000 ha in 2005/06 - equivalent to 30 per cent the area under opium poppy cultivation.[23]

The next most frequently mentioned source countries for cannabis resin are Nepal/India (mentioned by 7 per

Fig. 77: Area under cannabis cultivation in Afghanistan* and Morocco, 2004-2005



* data for Afghanistan refer to 2004/05 and 2005/06

Sources: UNODC, 2006 Afghanistan Opium Survey (and previous years) and UNODC/Government of Morocco, Maroc, Cannabis Survey 2005, Jan. 2007.

[21] UNODC, *2005 World Drug Report*, Volume I.

[22] Over the 2003-05 period, Morocco was mentioned 48 times as a source country for cannabis resin in replies by member states to UNODC's ARQ. Including Spain and Portugal, which are mainly transit countries of Moroccan hashish, the number of mentions increases to 70. The total number of all mentions of source countries (by the 61 reporting countries) amounted to 257. (Countries can mention more than one country as a source country). The proportion of Morocco (including the mentions of Spain and Portugal) was thus 27.2 per cent in all mentions.

[23] UNODC, *Afghanistan Opium Survey* 2006, October 2006.

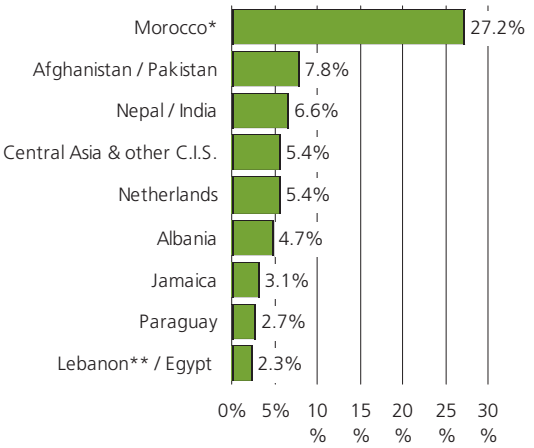
cent of the countries) and the Central Asian and other C.I.S. countries (5%), reflecting large areas of cannabis in Kazakhstan (mainly wild cannabis) and Kyrgyzstan. Significant levels cannabis production exist in the Chuy valley and around the Lake Issyk-Kul in Kyrgyzystan and in Zhambyl province of Kazakhstan bordering Kyrgyzstan. Both cannabis herb and resin are produced in these areas.

The Netherlands is also frequently mentioned as a country of origin (5% of global mentions). It is, however, not clear to what extent the cannabis resin actually originates in the Netherlands and to what extent it is smuggled into the country (from Morocco and other countries) for subsequent re-export. Though the Netherlands is an important producer of cannabis herb, other information suggests that resin production is limited. Similarly, the situation for Albania is not straightforward. This country is also frequently mentioned as a cannabis resin source country (5% of all mentions, mainly from neighbouring countries). What seems to be clear, however, is that Albania's role as a cannabis herb producer clearly exceeds its role as cannabis resin producer.

The most important cannabis resin producer in the Americas continues to be Jamaica (3% of global mentions), followed by Paraguay. Overall, production (and consumption) of cannabis resin in the Americas remains limited.

The most important cannabis resin producer in the Near East remains Lebanon (2% of global mentions). Following successful eradication campaigns, production in Lebanon is drastically down as compared to the early 1990s. Production of cannabis resin in Lebanon is concentrated in the Bekaa valley.

Fig. 78: Main source countries of cannabis resin, 2003-2005 (based on information from 61 countries)

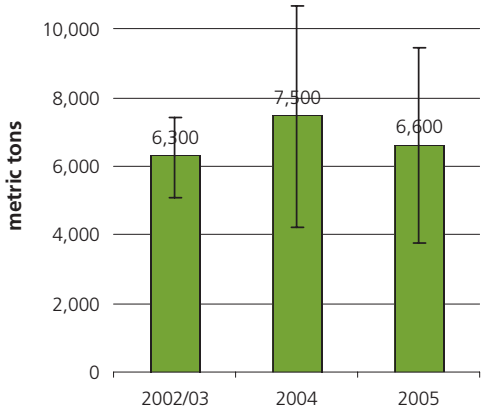


* including mentions of the transit countries Spain and Portugal; ** including mentions of Syria

number of times countries were identified as source countries as a proportion of countries reporting

Source: UNODC, Annual Reports Questionnaire Data.

Fig. 79: Global cannabis resin production estimates, 2002/03 – 2005



Sources: UNODC and Govt. of Morocco, Cannabis Surveys 2003, 2004 and 2005 and UNODC, Annual Reports Questionnaire Data.

Global cannabis resin production estimated at around 6,600 mt

Tentative estimates[24] suggest that some 6,600 mt of cannabis resin were produced in 2005 (range: 3,800-9,500). The previous year's estimate, based on the same methodology, resulted in an estimate of some 7,500 mt (range: 4,200-10,700), indicating that, following years of increases, global cannabis resin production actually declined in 2005. The decline was largely due to the lower cannabis resin production reported from Morocco. A production of some 6,600 mt of cannabis resin results in a calculated cannabis resin interception rate of close to 20 per cent.

[24] Which are based on extrapolating the results from Moroccan cannabis resin production data and extrapolating global resin production from herb production estimates with the help of seizure statistics

Table 11: Tentative estimates of global cannabis resin production, 2005

1. Estimate based on Moroccan cannabis resin production 2005 and seizures					
	Seizures in tons (2005)	Estimated proportion of seizures related to cannabis resin originating in Morocco	Estimated proportion from 2005 harvest	Potential seizures in tons related to Moroccan cannabis resin production in 2005	Cannabis resin production estimates
West & Central Europe	912.8	70%	50%	319.5	-
North Africa	109.1	90%	50%	49.1	-
Seizures related to Moroccan cannabis resin	-	-	-	368.6	-
Other seizures	-	-	-	930.5	-
Global seizures	-	-	-	1,299.1	-
in %	-	-	-	28%	-
Cannabis resin production in Morocco (2005) in tons					1,070
Global cannabis resin production estimate I					3,771
2. Estimate based on cannabis herb production estimates and seizures					
	Cannabis herb	Cannabis resin	Proportion		Cannabis resin production estimates
Seizures in tons (2005)	4,472	1,299	23%		
Global cannabis production estimate II	42,000		23%		9,455
3. Combined estimate					6,613
Rounded					**6,600**

1.4.3 Trafficking

Seizures of both cannabis herb and resin decline in 2005

Cannabis products remained the most widely trafficked drugs worldwide in 2005, accounting for 57 per cent of all global seizure cases (856,000 out of 1.5 million). Practically all countries in the world are affected by cannabis trafficking. Out of 165 countries and territories which reported seizures to UNODC, 99 per cent reported seizures of cannabis.

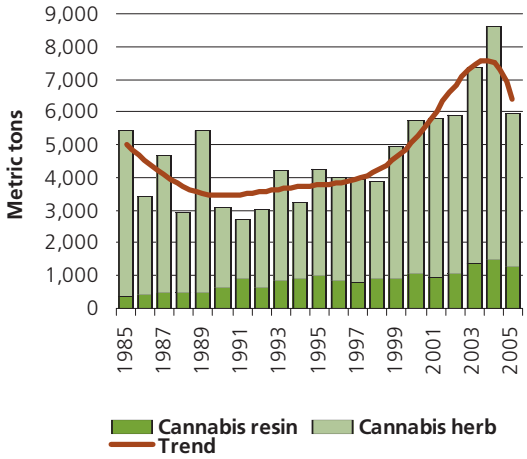
Cannabis herb seizures amounted to 4,600 mt and cannabis resin seizures to 1,300 mt in 2005. Small quantities of cannabis oil (700 litres) were also seized. Seizures of all three products declined in 2005 as compared to a year earlier, thus reversing the upward trend observed until 2004. Herb seizures dropped by 35 per cent, resin seizures by 11 per cent and cannabis oil seizures by 15 per cent. While changes in law enforcement priorities in some countries may have played a role, for the majority of countries lower seizures meant less trafficking as compared to the previous year. Taken together, cannabis herb and resin seizures are now back to the levels reported over the 2000-2002 period.

Most cannabis herb seizures in 2005 were reported from Mexico (38% of the world total), followed by the United States (24%), South Africa (6%), Brazil (3%), Tanzania (3%) and India (3%).

Most seizures of cannabis resin were made by Spain (51%), followed by Pakistan and Morocco (7% each), France (6%), Iran (5%), the UK (5% in 2004) and Afghanistan (3%).

Most cannabis oil seizures were made in the Russian Federation (34%) and the Ukraine (10%), followed by Canada (7%) and Morocco (5%).

Fig. 80: Cannabis seizures, 1985-2005



Source: UNODC, Annual Reports Questionnaire Data / DELTA

Cannabis herb remains by far the most widely trafficked drug

Despite of the strong decline in global seizures (-35%), cannabis herb remains the most widely trafficked substance in terms of volume and geographic spread. Ninety per cent of all countries reporting seizures (148 out of 165 countries) seized some cannabis herb. In contrast to other drugs, trafficking in cannabis herb is primarily intra-regional, not inter-regional. Exceptions to this are cannabis herb exports: from Africa (mainly western and southern Africa) to West and Central Europe; from South-East Asia (mainly Thailand) and South-West Asia (mainly Pakistan) to Europe (mainly the Netherlands); from Central Asia to East Europe (notably the Russian Federation); and from South America (mostly Colombia) to North America (mainly the USA).

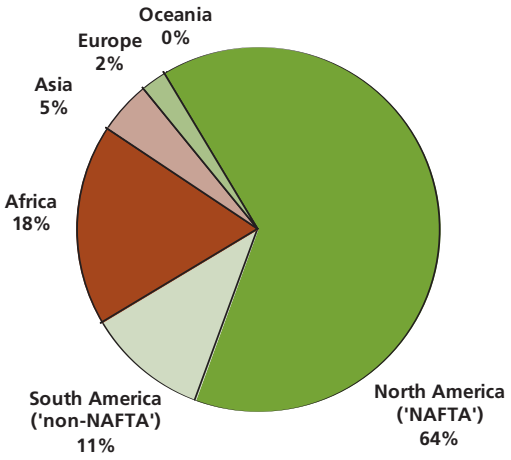
Close to two thirds of global cannabis herb seizures were made in North America (64%) in 2005, notably by the authorities of Mexico (1,781 mt) and the United States (1,112 mt). This reflects the magnitude of the North American cannabis market, both in terms size and of enforcement effort.

The next largest cannabis herb seizures were made in Africa, accounting for 18 per cent of global seizures. The largest seizures here were reported by South Africa (292 mt), Tanzania (150 mt) and Nigeria (126 mt).

South America, including the Caribbean and Central America, accounted for 11 per cent of global cannabis herb seizures. The main seizures in this region were reported by Brazil (152 mt), Colombia (129 mt) and Paraguay (67 mt).

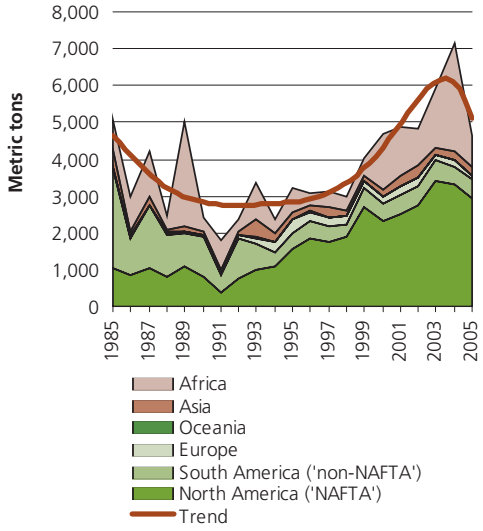
Cannabis herb seizures made in Asia accounted for 5 per

Fig. 81: Distribution of global cannabis herb seizures in 2005 (N=4,644 metric tons)



Source: UNODC, Annual Reports Questionnaire Data / DELTA

Fig. 82: Regional breakdown of cannabis herb seizures, 1985-2005



Source: UNODC, Annual Reports Questionnaire Data / DELTA.

cent of the world total. The largest seizures here were reported by India (147 mt), Indonesia (23 mt) and Kazakhstan (22 mt).

Europe's cannabis herb seizures were equivalent to 2 per cent of the world total. The largest seizures were made by the Russian Federation (30 mt) and the UK (21 mt)[1]. Europe is the only region which also 'imports' significant amounts of cannabis from other regions.

The overall decline of cannabis herb seizures in 2005 (-35%) meant that they were at their lowest level since 1999. A decline in cannabis herb seizures was reported from several regions: Oceania (-6%), North America (-11%), Europe (-39%) and Africa (-71%). Seizures were reported to be increasing, however, by countries of South America (+4%) and Asia (+9%).

Trafficking in cannabis resin

Global cannabis resin seizures decline, notably in West and Central Europe

In terms of quantities seized (1300 mt in 2005), cannabis resin is the second most widely trafficked drug worldwide, after cannabis herb. Resin seizures were reported in 104 countries in 2005, which is 63 per cent of all countries reporting seizures to UNODC. The geographical scope of cannabis resin trafficking is thus more limited than for herb trafficking.

In contrast to herb, trafficking in resin is not intra-regional but, significantly inter-regional. This applies, in particular, to trafficking of resin from North Africa (Morocco) to West and Central Europe, from Central Asia to East Europe (notably the Russian Federation) and from the Caribbean (notably Jamaica) to North America (notably Canada).

Global cannabis resin seizures declined by 11 per cent in 2005. Most of the decline, in absolute terms, was due to lower seizures reported by countries of West & Central Europe (-15%). This was linked to the decline of cannabis resin production in Morocco in 2004 and 2005. Data on individual seizures collected by the World Customs Organization (WCO)[2] in West Europe show that resin seizures declined by a further 30 per cent in 2006. Most of the decline, in both 2005 and 2006, was reported from Spain and France.

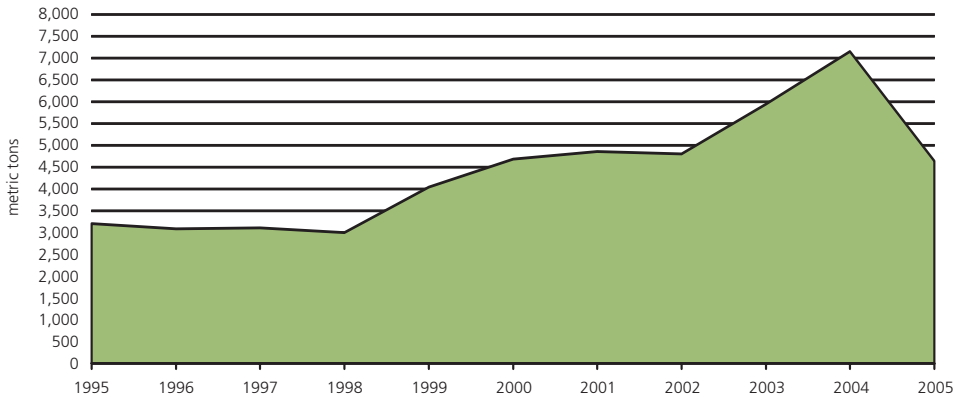
In 2005 Cannabis resin seizures made in North Africa increased slightly on a year earlier (+6%), but were still 5 per cent lower than in 2003 and 25 per cent lower than in 2000. For 2006, WCO data on individual seizures[3] suggest that resin seizures declined by 18 per cent.

[1] Data for 2004; no UK seizure data for the year 2005 are available as yet.

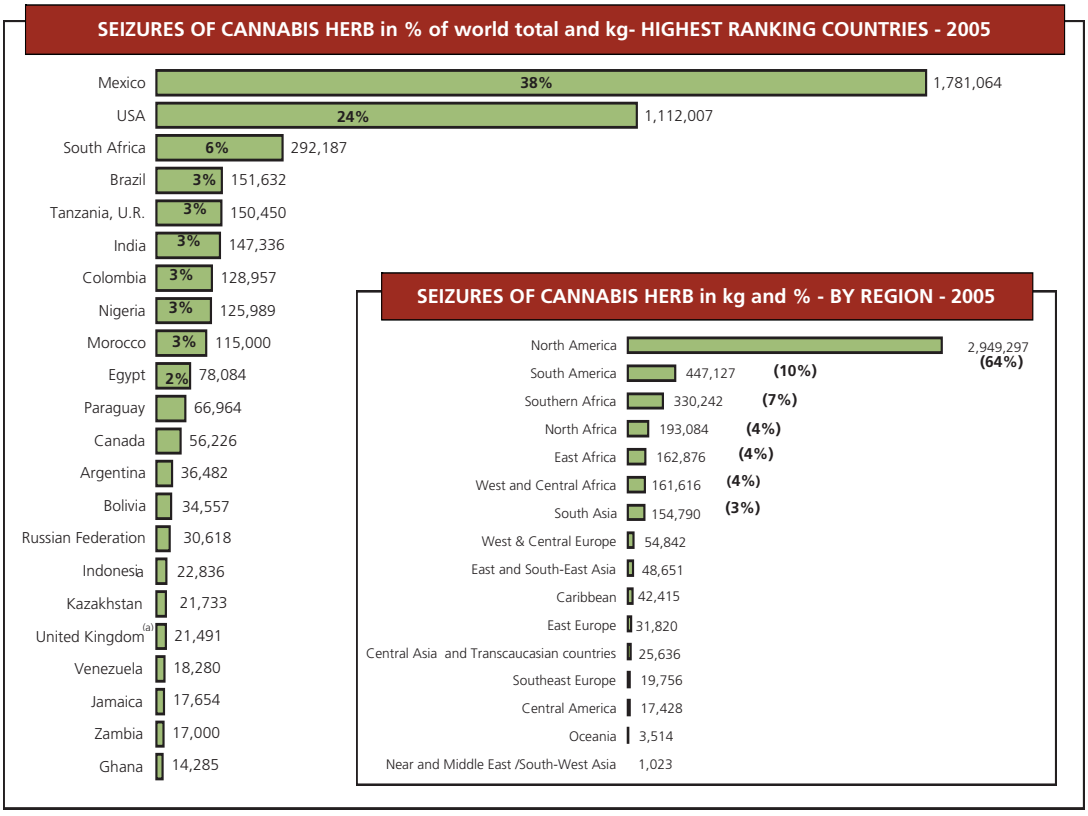
[2] World Customs Organization, Individual Drug Seizure Database, 27 April 2007.

[3] World Customs Organization, Individual Drug Seizure Database, 27 April 2007.

Fig. 83: Global seizures of cannabis herb, 1995 - 2005

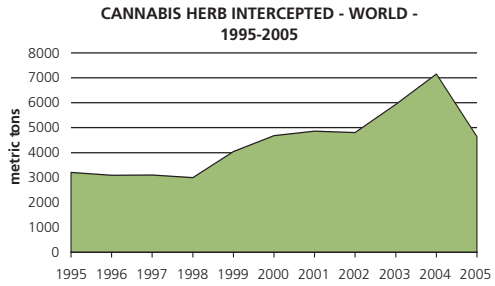


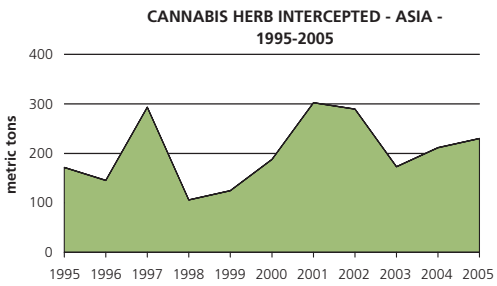
Year	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Metric tons	3,209	3,090	3,105	2,998	4,042	4,674	4,860	4,805	5,940	7,152	4,644

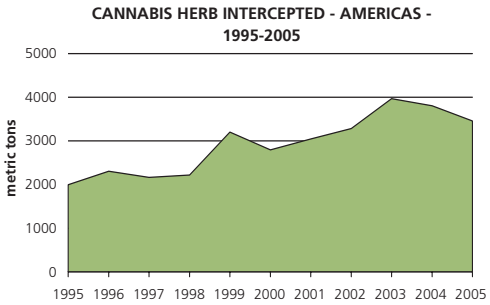


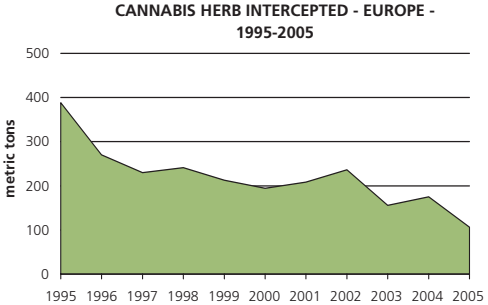
(a) data refer to 2004

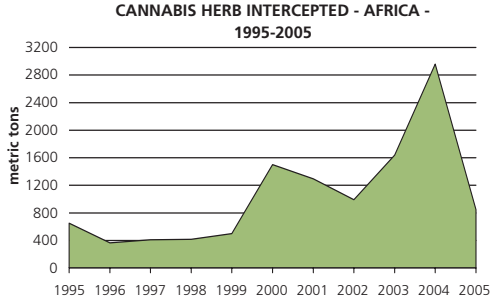
Fig. 84: Global seizures of cannabis herb, 1995 - 2005

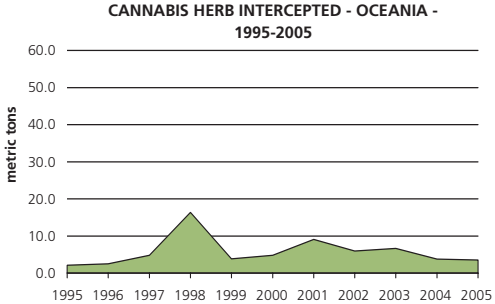




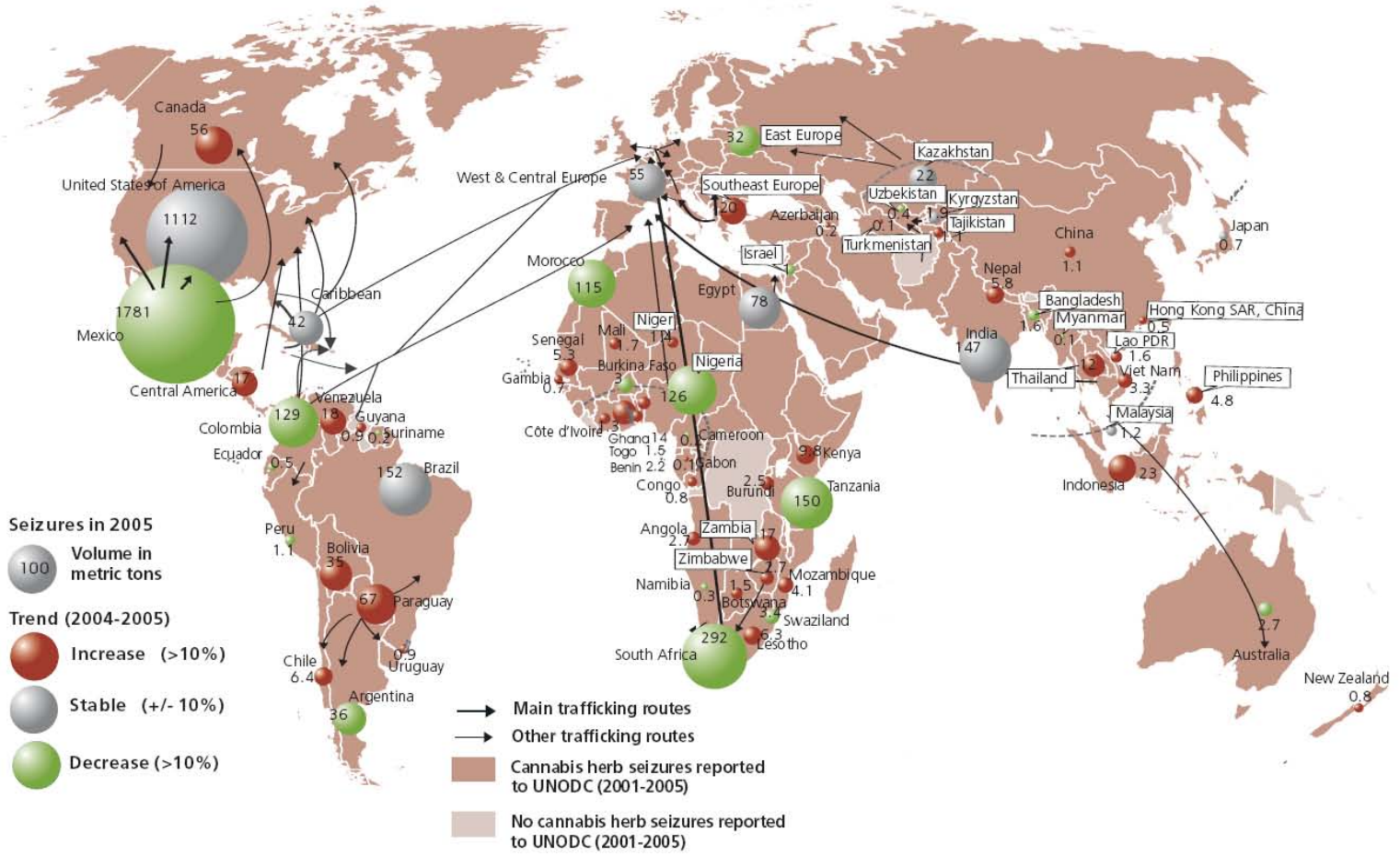








Map 15: Trafficking in cannabis herb, 2005 (countries reporting seizures of more than 100 kg)



Source: UNODC Annual Reports Questionnaires data/DELTA.

Seizures also declined in the Near & Middle East / South-West Asia sub-region (-16% in 2005). In contrast, there was an almost tenfold increase of cannabis resin seizures in the Americas (notably in the Caribbean). But, as a whole, the Americas still account for less than 1 per cent of world resin seizures.

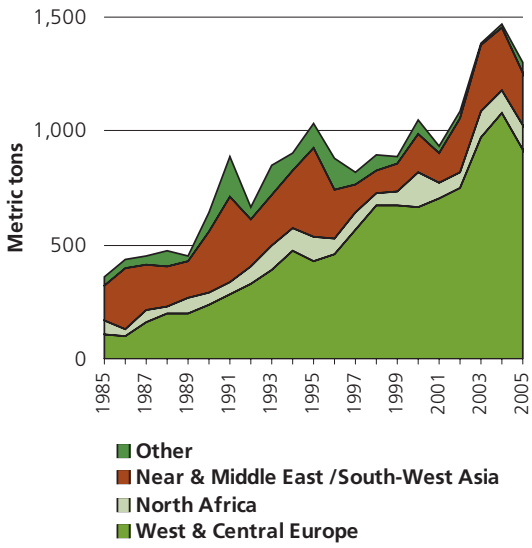
… but West and Central Europe remains the largest cannabis resin market

The world's largest cannabis resin market continues to be West and Central Europe, with the bulk of global seizures (71%) made there. Spain accounts for 73 per cent of all European cannabis resin seizures, ahead of France (9%), the UK (7% in 2004), Portugal (3%) and Italy (2½ %). Spain plays a key role in limiting the supply of cannabis resin for the European market.

The next largest resin seizures were made in the Near & Middle East / South-West Asia region (18% of the world total). The largest seizures here were reported by Pakistan (40% of all Asian cannabis resin seizures), followed by Iran (30%) and Afghanistan (18%). The Near East (defined as the Arabian peninsula, Lebanon, Syria, Jordan, Israel and Iraq) accounted for 10 per cent of cannabis resin seizures made in Asia; the remaining 2 per cent were made in other parts of Asia.

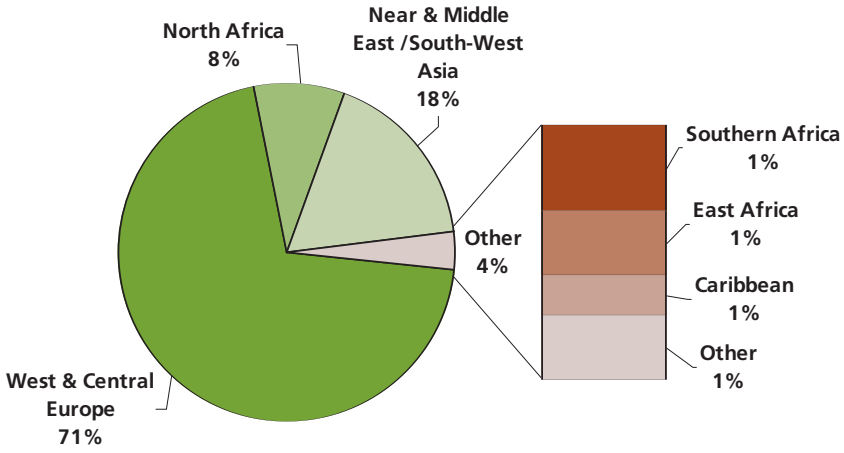
North Africa accounted for 8 per cent of global seizures. Including other parts of Africa, total cannabis resin seizures in Africa add up to 10 per cent of the world total. The largest seizures here were reported by Morocco, accounting for 67 per cent of all African cannabis resin seizures or 85 per cent of all cannabis resin seizures made in North Africa in 2005.

Fig. 87: Regional breakdown of cannabis resin seizures, 1985-2005



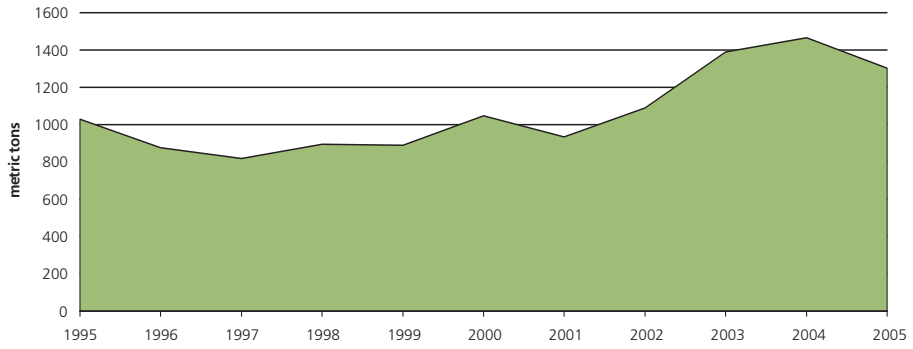
Source: UNODC, Annual Reports Questionnaire Data / DELTA.

Fig. 86: Distribution of global cannabis resin seizures in 2005 (N = 1,302 metric tons)

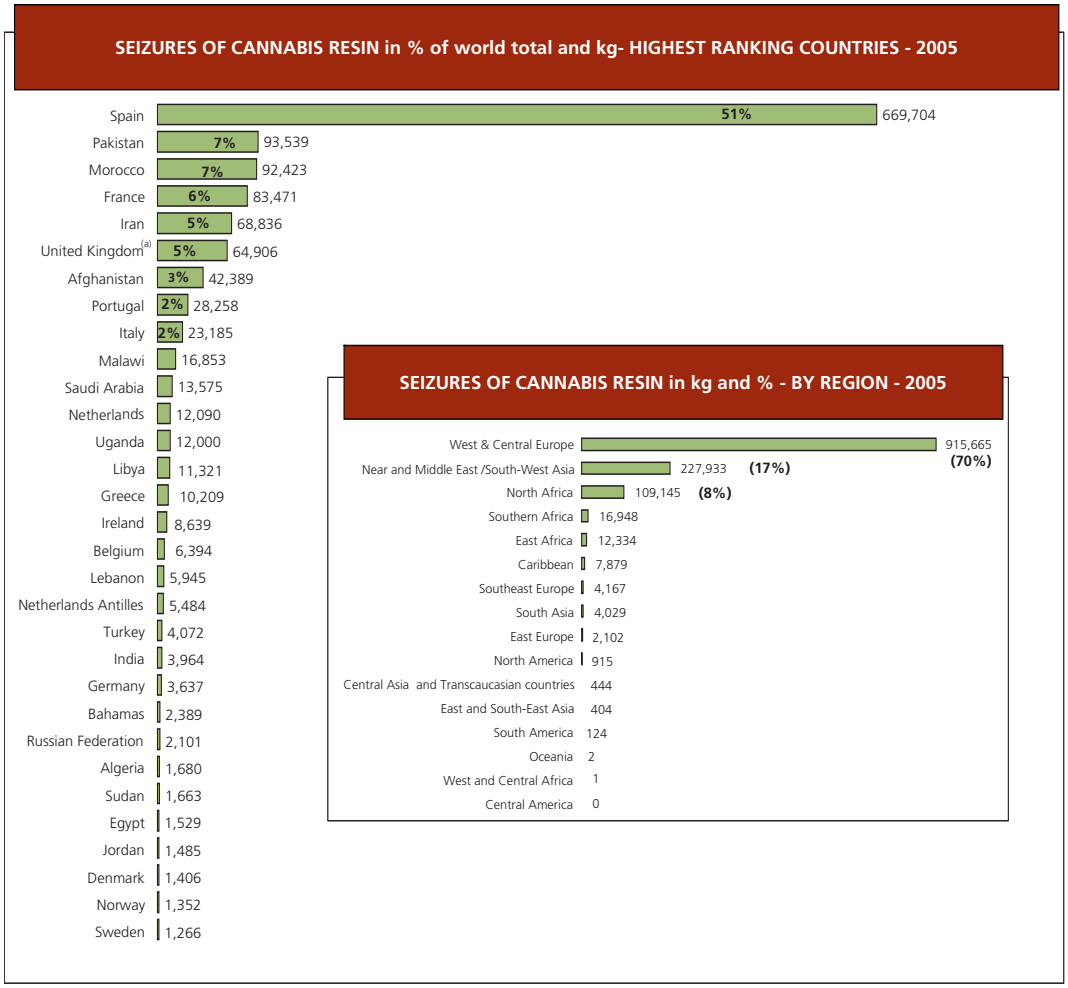


Source: UNODC, Annual Reports Questionnaire Data / DELTA.

Fig. 88: Global seizures of cannabis resin, 1995 - 2005

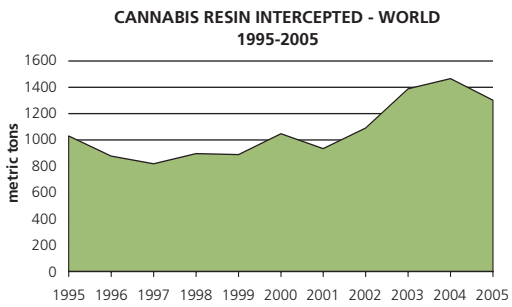


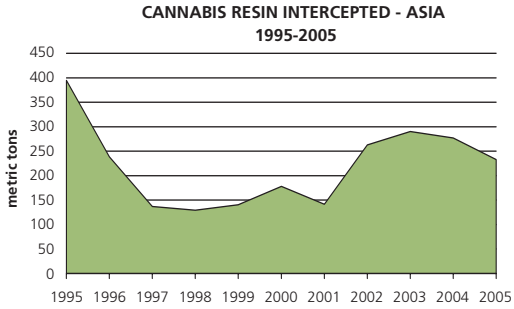
Year	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Metric tons	1,030	877	818	896	889	1,047	934	1,090	1,389	1,466	1,302

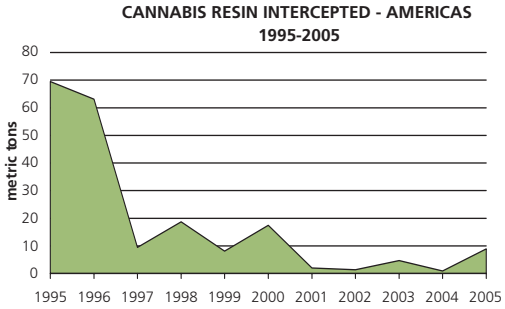


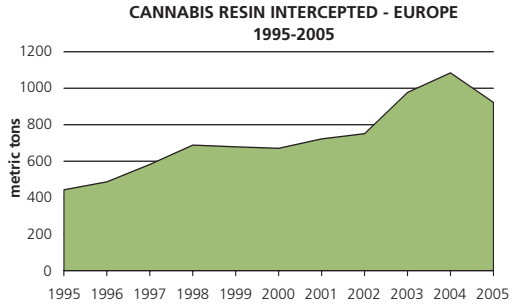
(a) data refer to 2004

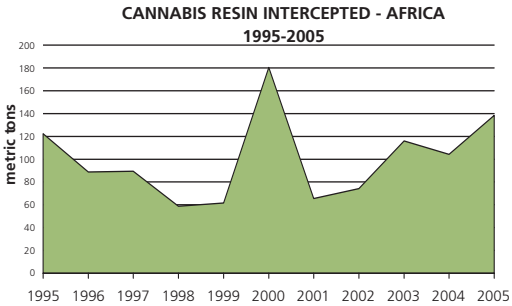
Fig. 89: Global seizures of cannabis resin, 1995 - 2005

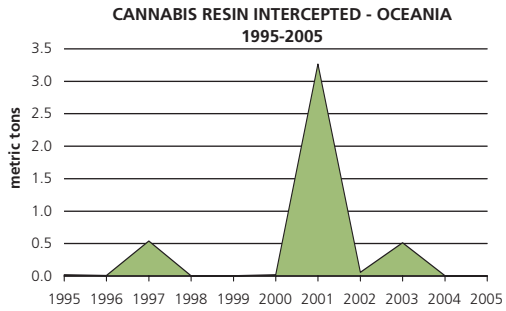




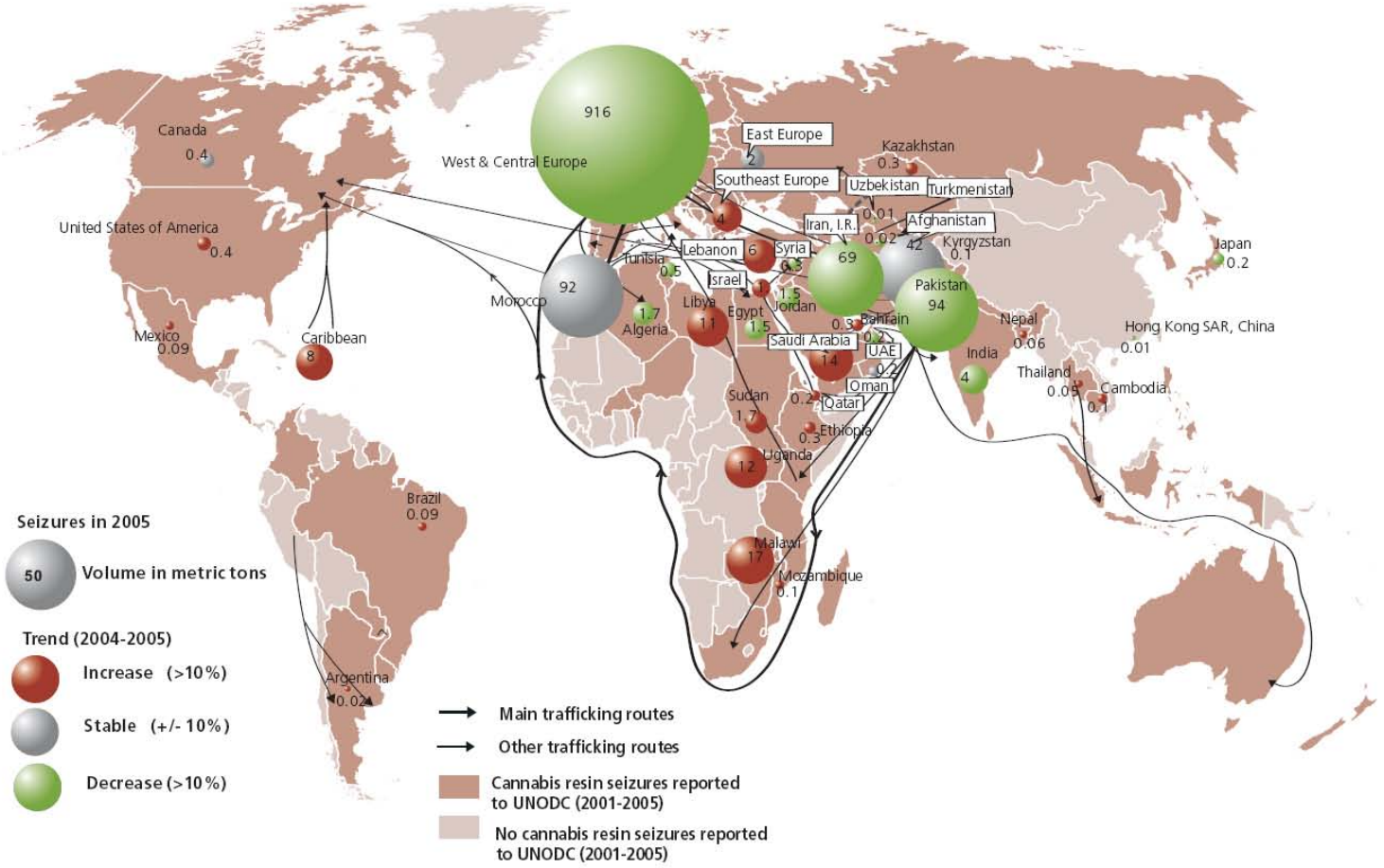








Map 16: Trafficking in cannabis resin, 2005, (countries reporting seizures of more than 10 kg)



Source: UNODC Annual Reports Questionnaires data/DELTA

1.4.4 Abuse

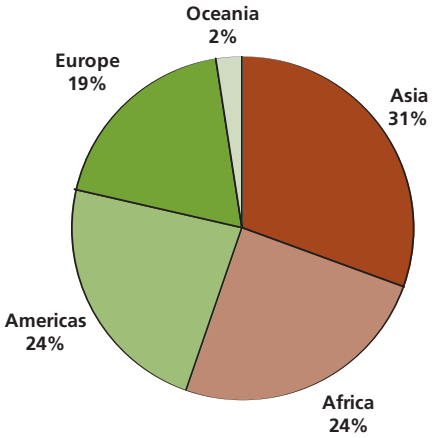
Cannabis remains the most widely used drug worldwide ...

Cannabis remains by far the most commonly used drug in the world. Almost 160 million people used cannabis in 2005, equivalent to 3.8 per cent of the global population aged 15 to 64.

In relative terms, cannabis use is most prevalent in Oceania (15.8%), followed by North America (10.7%), Africa (7.7%) and West and Central Europe (7.4%). The highest rates within Africa are found in West and Central Africa (13%) and in southern Africa (8.5%).

Asia has the lowest prevalence rates (1.9%), reflecting low levels reported from East and South-East Asia (0.9%). For South Asia, estimates show an average prevalence rate of 3.2 per cent; for the Near and Middle East region 3.5 per cent and for Central Asia 4.2 per cent, i.e. all regions in Asia, except for East-South-East Asia, are close to the global average.

Fig. 90: Cannabis consumption in 2005 – regional breakdown (N = 158.8 million)



Sources: UNODC, Annual Reports Questionnaire Data, UNODC Field Offices, UNODC Drug Abuse Information Network for Asia and the Pacific (DAINAP), UNODC Global Assessment Programme on Drug Abuse (GAP), Govt. reports, EMCDDA, CICAD, HONLEA reports, local studies, UNODC estimates.

Fig. 12: Annual prevalence of cannabis use, 2005 or latest year available

	No. of users	in % of population 15-64 years
EUROPE	30,500,000	5.6
West & Central Europe	23,400,000	7.4
South-East Europe	1,700,000	2.0
Eastern Europe	5,400,000	3.8
AMERICAS	37,600,000	6.5
North America	30,900,000	10.7
South America	6,700,000	2.3
ASIA	49,100,000	1.9
OCEANIA	3,400,000	15.8
AFRICA	38,200,000	7.7
GLOBAL	**158,800,000**	**3.8**

Above global average | Around global average | Below global average

Sources: UNODC, Annual Reports Questionnaire Data, UNODC Field Offices, UNODC Drug Abuse Information Network for Asia and the Pacific (DAINAP), UNODC Global Assessment Programme on Drug Abuse (GAP), Govt. reports, EMCDDA, CICAD, HONLEA reports, local studies, UNODC estimates.

In absolute terms, 49 million cannabis users, almost a third of the estimated total, live in Asia. Africa, with 38 million and the Americas, also with 38 million, each account for a about a quarter of global cannabis use. Europe, with about 30 million users, accounts for a fifth of global cannabis use and Oceania for 2 per cent.

… but the recent trend is difficult to measure

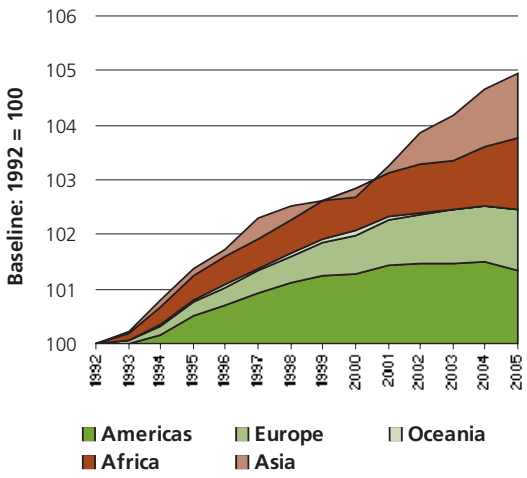
After years of increases, this year's cannabis use estimates of 159 million people are slightly lower than those published in last year's *World Drug Report* (162 million). It would be premature, however, to categorize this as a downward trend. Some of the lower figures come from a few new household surveys. They replace previous UNODC estimates which were slightly higher. At the same time, the new survey results did not, in general, show a further growth in cannabis use. There thus appears to be a general stabilization in cannabis use.

In contrast to this, the trend indicator, which shows the perceptions of experts and officials in Member States, suggests that cannabis use continued to grow in 2005. It is difficult to evaluate the accuracy of these perceptions. It can be argued that it is harder to report against a long-standing and generally accepted trend – in this case the trend of virtually universal increases in cannabis use over the last decade. Such perceptions do not change easily, even when new data, for instance from household surveys, would appear to indicate an improving situation. There could be thus some bias towards reporting an ongoing increase in cannabis use, and this has to be taken into account when interpreting the perception trend indicator for cannabis.

The general rise in the cannabis trend indicator was due to increasing cannabis use perceived by the authorities in most of Africa, several parts of Asia (South-Asia, South-West Asia and Central Asia) and most of South America. This more than offset declines perceived in North America and some European countries, as well as the stabilization or declines perceived in several countries of East and South-East Asia. Trend data for Oceania suggest stabilization at lower levels, after cannabis use had fallen for several years, though there are some indications that the downward trend in the region actually continued. Cannabis use trends in Europe showed a mixed picture, with increases perceived in East and South-East Europe and stabilization or decline reported from several West European countries.

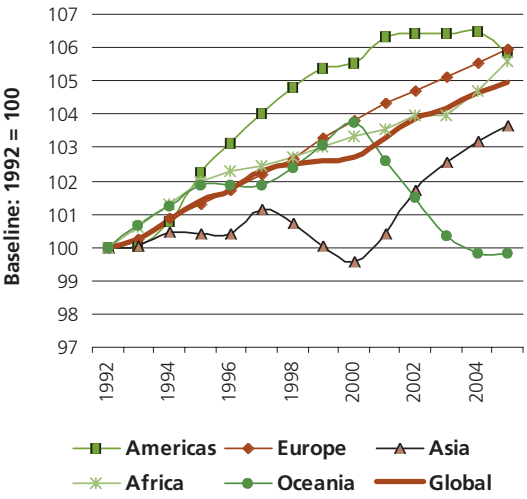
Over the 1992 to 2005 period, the cannabis trend indicator shows that the rates of increase were similar in the Americas, in Europe and in Africa. Over time, however, the patterns differed. Following increases in the Americas in the 1990s, the trend stabilized and a net decline

Fig. 91: Cannabis use trends as perceived by experts: regional contribution to global change, 1992 - 2005



Sources: UNODC, Annual Reports Questionnaire Data, UNODC Field Offices, UNODC Drug Abuse Information Network for Asia and the Pacific (DAINAP), UNODC Global Assessment Programme on Drug Abuse (GAP), Govt. reports, EMCDDA, CICAD, HONLEA reports, local studies,UNODC estimates.

Fig. 92: Cannabis use trends as perceived by experts - regional changes, 1992-2005



Sources: UNODC, Annual Reports Questionnaire Data, UNODC Field Offices, UNODC Drug Abuse Information Network for Asia and the Pacific (DAINAP), UNODC Global Assessment Programme on Drug Abuse (GAP), Govt. reports, EMCDDA, CICAD, HONLEA reports, local studies,UNODC estimates.

was reported for 2005. Europe and Africa showed an upward trend throughout the period with Africa showing higher growth rates in recent years. For Asia, the indicator shows, in contrast, lower than average increases. This was due to an apparent decline in the popularity of cannabis in the late 1990s. In the new millennium this changed and Asia, together with Africa, showed some of the strongest increases in recent years. Starting from high levels, Oceania showed higher than average increases in the 1990s, but a clear downward trend thereafter. Oceania is thus the only region in the world where the cannabis consumption fell back to levels reported in the early 1990s.

Cannabis use continues declining in North America

Cannabis use among 12th graders in the USA declined by 18 per cent between 1997 and 2006 and is significantly lower than three decades ago (-29%). As compared to the peak in 1979, annual prevalence data for 12th graders show a decline of 38 per cent.

A strong decline in cannabis use was also reported among high-school students in Ontario (-19% over the 2003-2005 period). The previous upward trend was thus reversed.

A decline was also noticed for cannabis use among the general population. General population household survey data show that cannabis use in the USA declined from 11 per cent in 2002 to 10.4 per cent in 2005[1]. As compared to the peak in 1979 (16.6%)[2], cannabis use is 37 per cent lower.

Declines in cannabis use were also reported from Mexico for the year 2005.

… but increases in South America

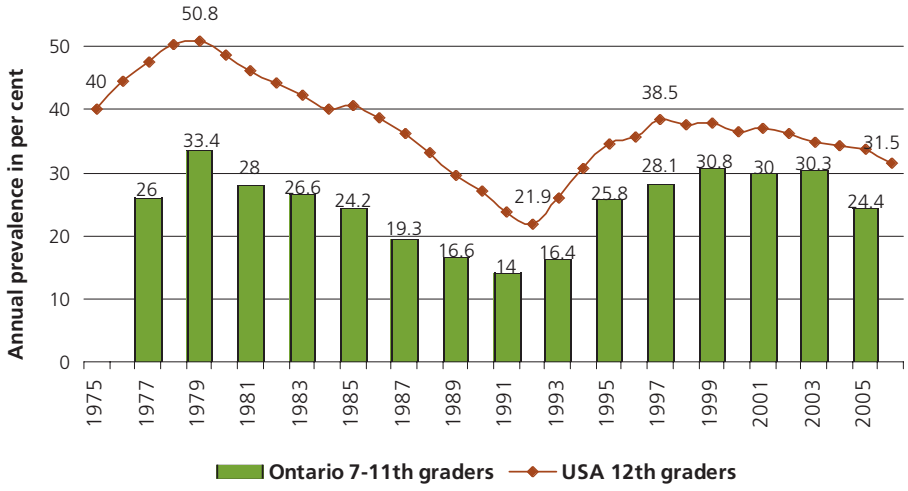
A clear increase in cannabis use was reported from countries in South America. Seven countries reported rising use in 2005 and only one country reported a decline. Nine countries described the situation as stable. The rate of increase thus appears to have declined: a year earlier 11 countries reported rising levels of cannabis use.

The most important increase – though starting from very low levels – was reported from the continent's largest country, Brazil. This probably reflects increased availability of cannabis products from neighbouring Paraguay. The annual prevalence of cannabis use increased from 1 per cent in 2001 to 2.6 per cent in 2005[3].

… and shows a mixed picture in Europe with stabilization/decline in the main West European markets

The majority of countries of West and Central Europe (14) reported cannabis use has stabilized. Nonetheless,

Fig. 93: Annual prevalence among high-school students in the USA and in Ontario, Canada, 1975-2006



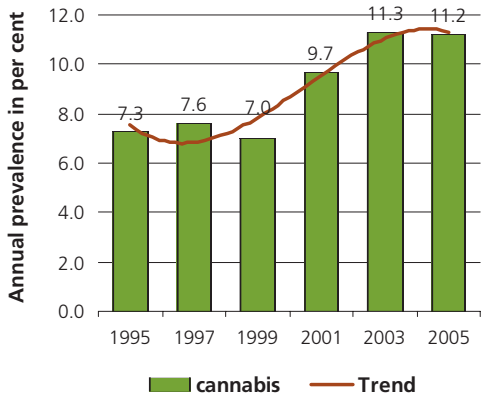
Sources: NIDA, Monitoring the Future, 2006 and CAMH, Ontario Drug Use Survey 2005.

[1] SAMHSA, *2005 National Survey on Drug Use & Health*, Rockville MD, Sept. 2006.

[2] Data quoted in SAMHSA, *Preliminary Results from the 1996 Household Survey on Drug Abuse*, August 1997.

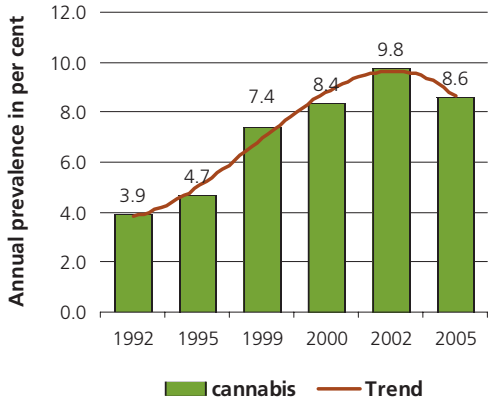
[3] CEBRID, Il Levantamento Domiciliar sobre o Use de Drogas Psicotrópicas no Basil: Estudo Envolvendo as 107 Maiores Cidades do País, Sao Paolo 2002; CEBRID, Il Levantamento Domiciliar sobre o Uso de Drogas Psicotrópicas no Basil: Estudo Envolvendo as 108 Maiores Cidades do Pais, Sao Paolo 2006.

Fig. 94: Spain: annual prevalence of cannabis use among the general population (age 15-64), 1995-2005



Sources: EMCDDA and UNODC, Annual Reports Questionnaire Data.

Fig. 96: France: annual prevalence of cannabis use among the general population (age 15-64), 1992-2005



Sources: EMCDDA and UNODC, Annual Reports Questionnaire Data.

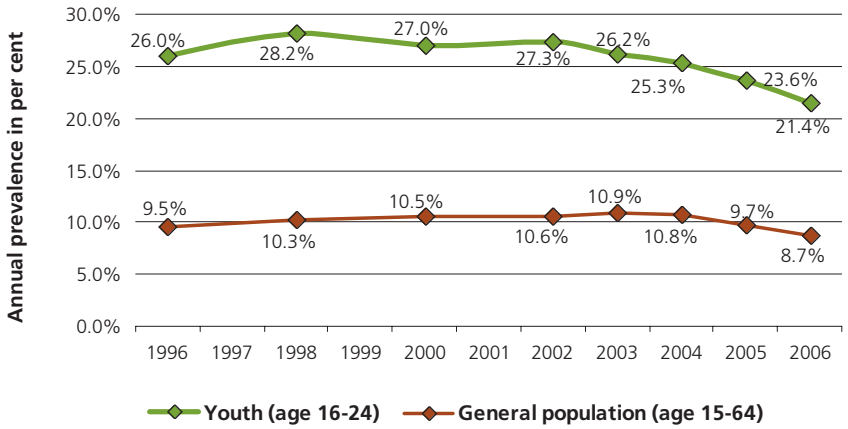
the number of countries reporting increases (11) was still nearly double those reporting declines (6).

In Europe's main cannabis markets, however, cannabis has now either stabilized or started to decline. Growing awareness of the negative effects of the high THC cannabis found in many European markets seems to have contributed to this stabilization/decline.

The authorities in Spain, one of Europe's largest cannabis markets, still reported some increase in cannabis use for the year 2005[4]. This perception, however, may be too pessimistic. Household survey data actually indicate stabilization of the market from 2003 to 2005 (11.3% in 2003 and 11.2% in 2005), following strong growth over the 1999-2003 period. The stabilization went in parallel with a growing awareness of the dangers of cannabis use among young people in Spain.[5]

Authorities in France reported a stabilization of cannabis use. Analysis of national household surveys in

Fig. 95: England & Wales: annual prevalence of cannabis use among the general population (age 16-59) and among youth (16-24), 1996 - 2006



Source: UK Home Office, British Crime Survey, 2005/06, London 2006.

[4] UNODC, Annual Reports Questionnaire Data for the year 2005 for Spain.

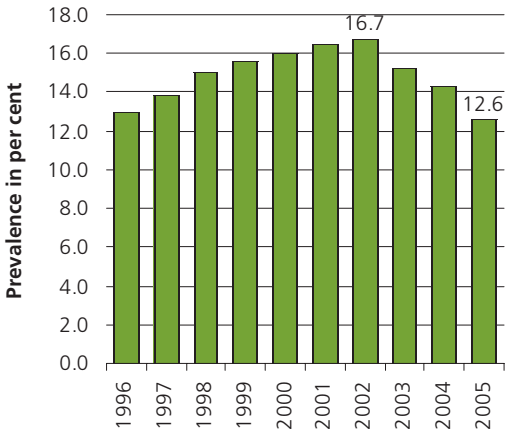
[5] A study done by Eurobarometer among 15-24 year olds in Spain found the perception that occasional use of cannabis was harmless falling from 44 per cent in 2002 to 31 per in cent in 2004. European Commission, Eurobarometer, *Young people and drugs*, Brussels, June 2004).

the country suggests, however, that cannabis use declined. Annual prevalence fell from 9.8 per cent in 2002 to 8.6 per cent in 2005 and is almost back to the levels reported at the beginning of the new millennium. The decline in France also went in parallel with a growing awareness of the dangers of cannabis use among young people.[6]

For the United Kingdom, which was Europe's largest cannabis market for many years, cannabis use is now showing a downward trend. Use among the general population (age 16-59) declined in England and Wales from 10.8 per cent in 2003/04 to 8.7 per cent in 2005/06. Including data from Scotland and Northern Ireland, the UK has now a prevalence rate of 8.4 per cent and thus ranks behind Spain and France.

The downward trend among young people in England and Wales appears to have started shortly after 1998, as the UK drug prevention budget was expanded and a number of new activities targeting youth became operational. The trend then became more pronounced in the new millennium, probably because extensive discussion about re-scheduling cannabis brought new scientific findings on the potential harm of cannabis into the limelight. Growing awareness of the dangers of cannabis use among young people[7] went in parallel with declining cannabis use.

Fig. 97: Sweden: life-time prevalence of cannabis use among military recruits



Source: Swedish Council on Information on Alcohol and other Drugs (CAN).

Most of the stabilization or decline in Europe was in the mature and saturated cannabis markets. There have also been some positive exceptions, notably among the Nordic countries. Data for Finland show stabilization of cannabis use among the general population at a level of 2.9 per cent between 2002 and 2004. Similarly, in Norway cannabis use remained de-facto unchanged in recent years (4.5% in 1999, 4.6% in 2004). Even though Sweden already has among the lowest levels of cannabis use in Europe, data show some declines. Life-time prevalence of cannabis use among military recruits (typically age 18), declined from 16.7 per cent in 2002 to 12.6 per cent in 2005. Annual prevalence of cannabis use among the general population declined from 2.2 per cent in 2004 to 2.0 per cent in 2005.

Cannabis use shows an upward trend in Africa ...

A total of 17 African countries reported rising levels of cannabis use in 2005, and only 4 countries saw a decline; a further 4 countries described the cannabis situation as stable. As compared to a year earlier, the upward trend appears to have lost at least some of its momentum. For 2004, 20 countries saw cannabis use rising, only 3 reported a decline and 4 reported stabilization.

…while the situation in Asia is more complex

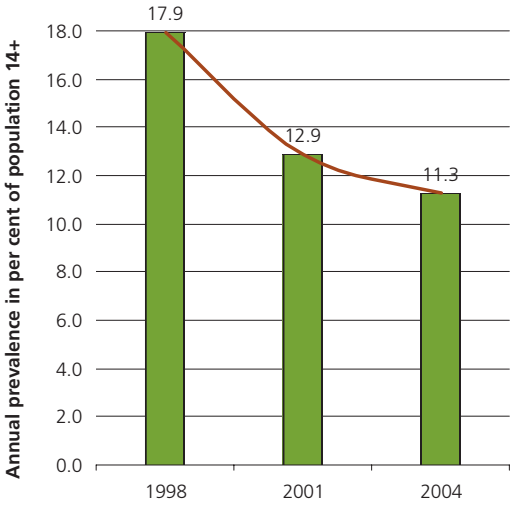
The cannabis trend indicator, weighted by the cannabis using population, showed a clear upward trend for Asia in 2005. In terms of the number of countries reporting changes in cannabis use, however, the picture is more complex. In fact, only 8 countries reported rising cannabis use for 2005, while 12 reported a decline and a further 12 saw their cannabis markets as stable. Data from Thailand, one of the few countries in the region which conducts regular household surveys, show that the annual prevalence of cannabis use among the general population (age 12-65) declined from 1.5 per cent in 2001 to 0.9 per cent in 2006[8]. Several other countries in East and South-East Asia may well have similar patterns.

[6] A study done by Eurobarometer among 15-24 year olds in France found the perception that occasional use of cannabis was harmless falling from 48 per cent in 2002 to 30 per in cent in 2004, the strongest decline observed in Europe. (European Commission, Eurobarometer, *Young people and drugs*, Brussels, June 2004.)

[7] While 47 per cent of youth (age 15-24) in the UK considered the occasional use of cannabis to be harmless in 2002, this proportion declined to 40 per cent by 2004. (European Commission, Eurobarometer, *Young people and drugs*, Brussels, June 2004.)

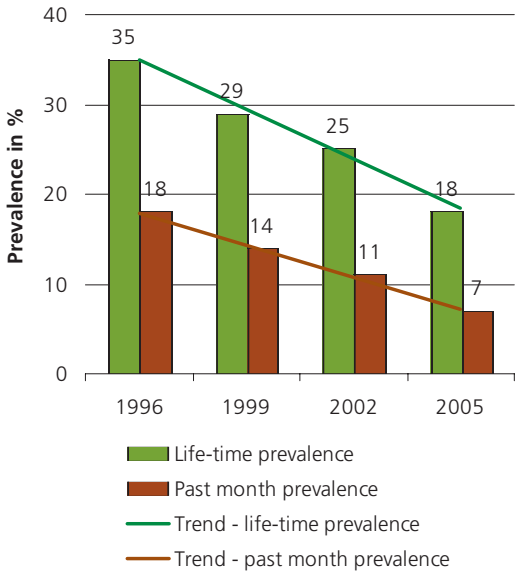
[8] UNODC (Regional Centre for East Asia and the Pacific), *Amphetamine-type Stimulants in East Asia and the Pacific: Analysis of 2003 Regional ATS Questionnaire*, Bangkok 2004 and UNODC (Regional Centre for East Asia and the Pacific), Drug Abuse Information Network for Asia and the Pacific (DAINAP), 2007.

Fig. 98: Australia: annual prevalence of cannabis use among the general population (age 14+), 1998-2004



Source: Australian Institute of Health and Welfare, The 2004 National Drug Strategy Household Survey.

Fig. 99: Australia: cannabis use among secondary school students (age 12-17) in Australia, 1996-2005



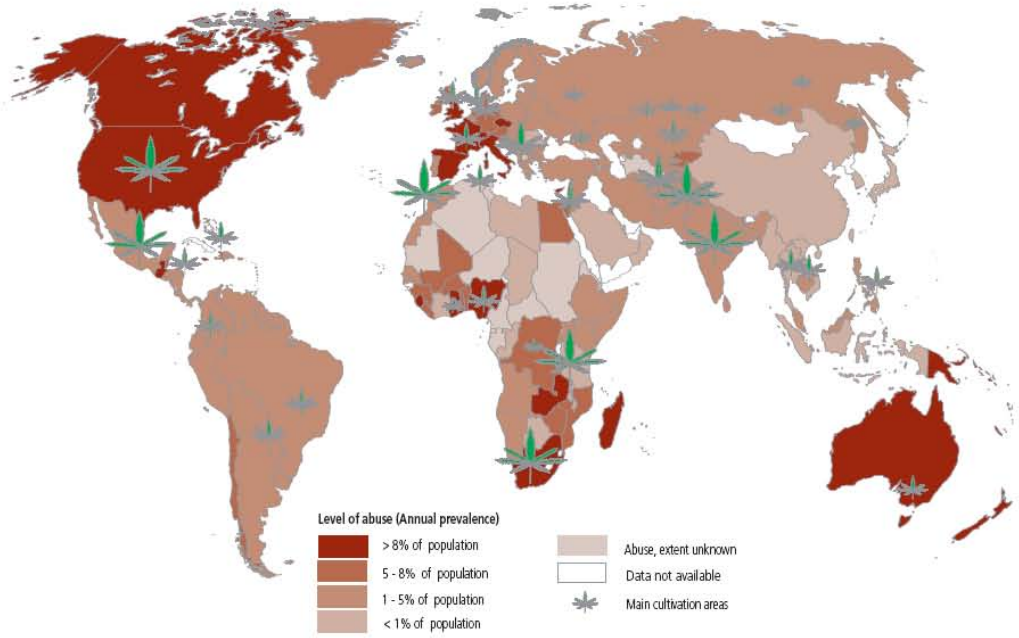
Source: The Cancer Council Victory, Australian secondary school students' use of over-the-counter and illicit substances in 2005, June 2006

… and a clear downward trend is observed in Oceania

The Australian Household Survey data show that cannabis use declined by some 37 per cent between 1998 and 2004 and use levels are now below those in 1993. Though changes in the methodology may, to some extent, hinder direct comparison between 1998 and 2001, there is hardly any doubt that a significant decline has occurred since the late 1990s. Student surveys, conducted in regular intervals between 1996 and 2005, show an even stronger decline, from a monthly prevalence rate of 18 per cent in 1996 to 7 per cent in 2005, which would indicate that school prevention programmes have been working. While general population data show that cannabis use is still marginally higher in Australia than in the USA (10.6% in 2004), Australian school survey data[9] show that cannabis prevalence among high-school students is lower than in the USA (31.8% life-time and 13.9% monthly prevalence among 8-12th graders in the USA, 2005; 18% life-time and 7% monthly prevalence among secondary school students aged 12-17 in Australia, 2005). The opposite was true a decade earlier. Though there are no definitive explanations for the decline, it appears that, as in other parts of the world, cannabis is beginning to loose some of its benign image among young people.

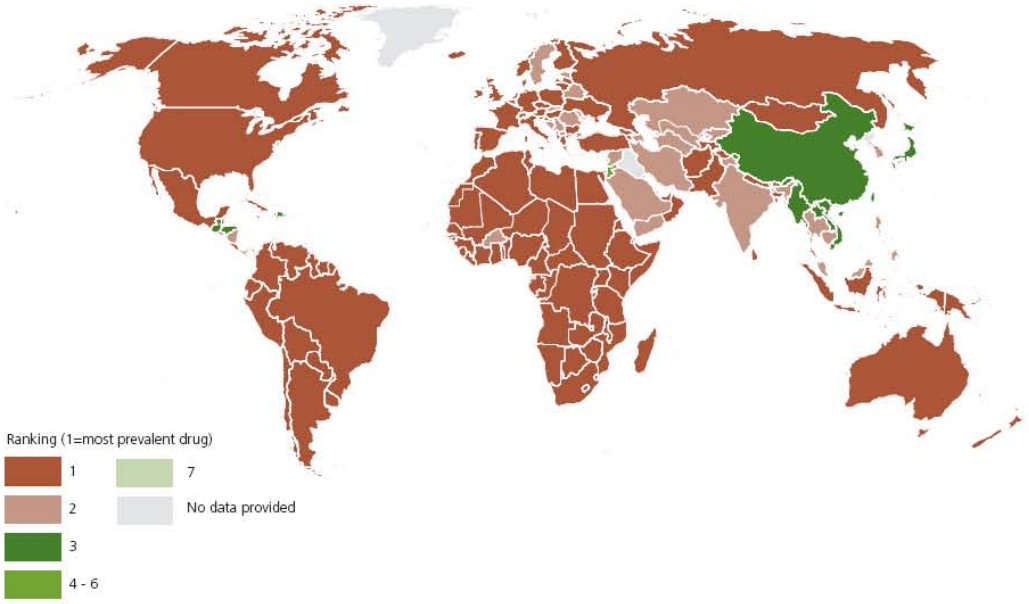
[9] The Cancer Council Victoria, Report for Drug Strategy Branch, Dept of Health and Ageing, Government of Australia, Australian secondary school students' use of over-the-counter and illicit substances in 2005, June 2006

Map 17: Use of cannabis 2005 - 2006



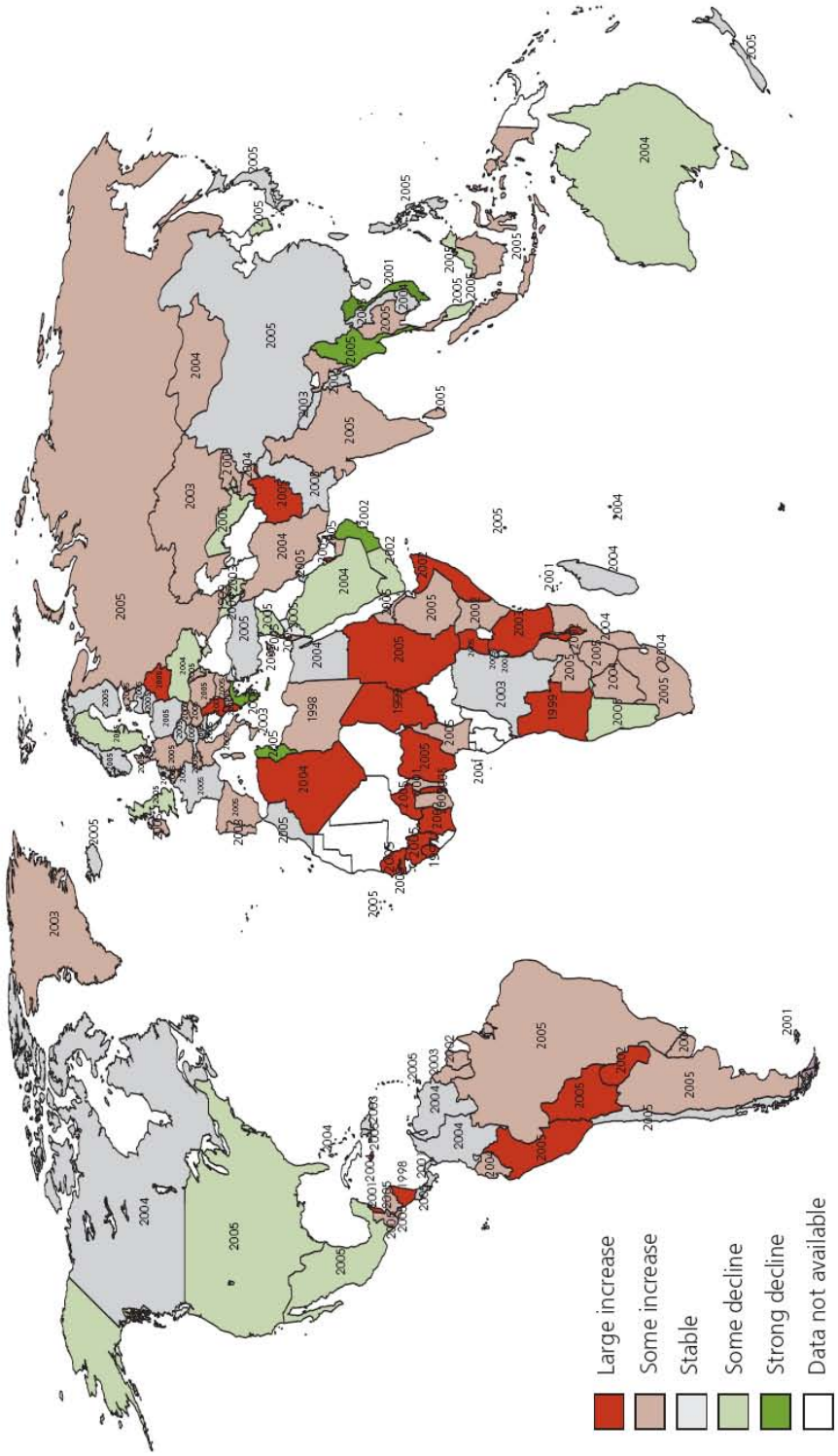
Source: Sources: UNODC Annual Reports Questionnaires data and national reports, UNODC Global Assessment Programme on Drug Abuse (GAP)

Map 18: Ranking of cannabis in order of prevalence in 2005 (or latest available)



Source: UNODC Annual Reports Questionnaires data/DELTA; Government Reports, US Department of State; European Monitoring Centre for Drugs and Drug Addiction (EMCDDA); Drug Abuse Information Network for Asia and the Pacific (DAINAP); UNODC Global Assessment Programme on Drug Abuse (GAP), Inter-American Drug Abuse Control Commission (CICAD)

Map 19: Changes in the use of cannabis 2005, (or latest year available)



Source: Sources: UNODC Annual Reports Questionnaires data and national reports, UNODC Global Assessment Programme on Drug Abuse (GAP)

1.5 Amphetamine-type stimulants

1.5.1 Summary trend / overview

There has been an overall stabilisation of the ATS market with notable contractions seen on both the supply and the demand sides. The market remains highly diversified (geographically and product-wise). It continues to be characterised by youthful consumers, a comparatively inexpensive final product, and low-overhead production which is fairly close to the consumer. Some of these characteristics differentiate it from the markets for opiates, cocaine and cannabis. The ATS market's heavy reliance on regulated precursor chemicals also define its characteristics, as well as its control. In the past this has been a vibrant, highly adaptive market. However, it appears that supply control and demand reduction measures have been effective in suppressing expansion.

The alarming increases in the production of ATS throughout the 1990s seem to have levelled off over the last few years. This is likely a result of recent efforts to monitor and improve precursor control.

The largest production areas for methamphetamine continue to be in South-East Asia, including Myanmar, China and the Philippines, and in North America. Traditionally, the majority of methamphetamine was produced in the USA, with the precursor chemicals smuggled into this country via Canada or Mexico. Improved controls in Canada and further tightening of controls in the USA has led to a decline in the number of clandestine laboratories operating within the United States and a shift of production across the border to Mexico. However, Mexico has now also improved its precursor control regime, prompting drug trafficking organizations to exploit other areas such as Central America and possibly Africa. In the Republic of South Africa, where methamphetamine is produced for the domestic market, both production and consumption have increased. The Oceania region, notably Australia and New Zealand, continue to be important producers and consumers of methamphetamine, but there are no indications that these drugs are exported.

Amphetamine production continues to be primarily located in Europe, notably in the Netherlands and Poland, followed by the Baltic region and Belgium. Amphetamine production also takes place in North America (notably in the USA) and in South-East Asia. Ecstasy production also continues to be largely concentrated in Europe, though the expansion of ecstasy production, in recent years, has mainly taken place outside Europe, notably in North America and in East and South-East Asia.

Global seizures of ATS are dominated by seizures of methamphetamine. Over the 2000-2005 period, 49 per cent of ATS seizures were in the form of methamphetamine, 15 per cent in the form of amphetamine, and 14 per cent in the form of ecstasy; the rest (23 per cent) was not properly defined. The trend in recent years, however, has been towards rising proportions of amphetamine and falling proportions of methamphetamine, reflecting improved control over the two main methamphetamine precursors, ephedrine and pseudo-ephedrine. Taking amphetamine and methamphetamine together, about half of global seizures took place in East & South-East Asia in 2005, about a fifth took place in North America and another fifth in West and Central Europe. This distribution is consistent with that of previous years. In the case of ecstasy, 38 per cent of global seizures in 2005 took place in West and Central Europe, 27 per cent in the Oceania region, 20 per cent in North America and 9 per cent in East and South-East Asia.

Global demand for amphetamines (methamphetamine and amphetamine), which increased strongly in most parts of the world in the 1990's, is now showing signs of an overall stabilisation. With close to 25 million people, the global amphetamines consumer market is larger than the markets for cocaine or heroin. Between 15-16 million of these persons are thought to consume methamphetamine. Following the expansion of the consumer market throughout the 1990's, fuelled by rising demand in East and South-East Asia, Europe and North America, there have been consistent signs of slow down and stabilisation over the last few years.

A key element of this slowdown has been the downward trend in amphetamines use in North America. Methamphetamine consumption among high school students in the USA fell by more than 37 per cent over the 2002-2006 period. The rate was closer to 20 per cent for the rest of the population. There has also been a clear stabilisation of demand within Europe and Asia. Overall, 44 per cent of reporting countries recorded a stabilization of ATS consumption in 2005, up from 33 per cent in 2000, while the proportion of countries experiencing an increase fell from 55 per cent in 2000 to 45 per cent in 2005; 11 per cent of countries reported a decline in ATS use.

1.5.2 Production

Global ATS production stabilizes at less than 500 mt

World ATS production appears to have stabilized at some 480 mt in 20051. Total ATS production in 2005 (rounded figures) was composed of 110 mt of ecstasy and 370 mt of 'amphetamines' (including 290 mt of methamphetamine and 80 mt of amphetamine). The 2005 estimates for both methamphetamine and ecstasy are slightly lower than those for 2004 while the amphetamine estimate is higher.

The ATS production estimates are based on three subcomponents: (i) seizures of ATS end products, (ii) seizures of ATS precursors and (iii) estimates of ATS users. Using the lowest and the highest estimates, actual ATS production could have amounted to any value between 360 and 880 mt in 2005. Propagation of error calculations narrows the range to between 410 and 560 mt.

Though the average production estimates for the years 2004 and 2005 are similar to those of previous years, the potential margins of error have widened, notably for the production of the amphetamines. This is a consequence of the fact that precursor seizures increased drastically while end-product seizures declined in 2004. The opposite was true for 2005.

The wide margins of error associated with estimating ATS production make trend analysis difficult. It is clear, however, that following a strong increase of ATS production in the 1990s, the situation appears to have stabilized in the last few years.

ATS production is concentrated in North America, East & South-East Asia, Europe, Oceania and southern Africa

In recent years ATS production has been spreading in geographical terms. Existing concentrations of production have not been dispersed but new locations of production have been identified. Production continues to be concentrated in North America, East & South-East Asia, Europe, Oceania as well as – and this is a recent phenomenon - in South Africa. Most methamphetamine production continues to occur in North America and in East & South-East Asia. Concentration patterns have not changed for amphetamine, the production of which mainly takes place in Europe. Similarly, most ecstasy production takes place in Europe and in North America, though production has increasingly also been found in East and South-East Asia.

Table 13: Production estimates of amphetamine-type stimulants, 2005

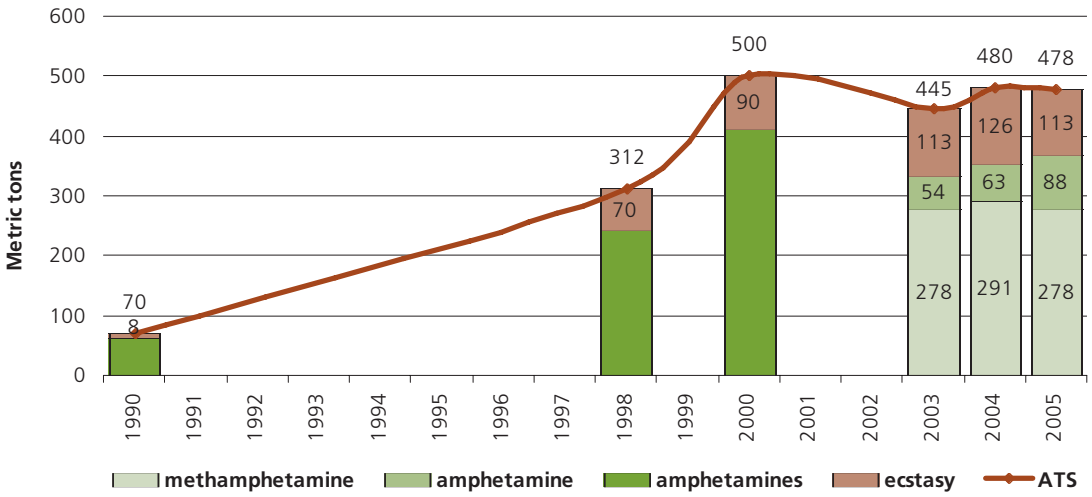
Based on	'Amphetamines' (methamphetamine, amphetamine)		Ecstasy		Total	
	Estimate	Range	Estimate	Range	Estimate	Range
Consumption	308	246 – 369	125	112 – 139	433	358 – 508
Drug seizures	307	282 – 332	80	66 – 94	387	348 – 426
Precursor seizures	483	322 – 690	132	88 – 189	615	410 – 879
Average of all estimates	**366**	**308 – 438***	**113**	**95 – 132***	**478**	**417 – 553***
Rounded estimates	**370**	**310 – 440***	**110**	**90 – 130***	**480**	**410 – 560***

* Ranges calculated on the basis of 'propagation of error' statistics.
Maximum range of all results: 358 – 879 metric tons

Sources: UNODC estimates based on UNODC, Annual Reports Questionnaire Data / DELTA and INCB, *2006 Precursors*, March 2007.

[1] Production of amphetamine-type stimulants (ATS) can only be estimated indirectly. A methodology to arrive at such estimates was first developed in UNODC's report *Ecstasy and Amphetamines - A Global Survey 2003* and is described in more detail in the Methodology Section.

Fig. 100: Production estimates of amphetamine-type stimulants



Sources: UNODC estimates based on UNODC, Annual Reports Questionnaire Data/DELTA, INCB, *2006 Precursors,* March 2007, UNODC, World Drug Report 2006 (and previous years) and UNODC, *Ecstasy and Amphetamines – Global Survey 2003*.

Seizures of both laboratories and ATS precursors decline

The seizure and dismantling of laboratories is one of the key elements in the interdiction of ATS supply. In 2005, over 95 percent of ATS laboratories dismantled worldwide were producing methamphetamine. Labs producing amphetamine and ecstasy were negligible in comparison. Methamphetamine production is highly dispersed and it can be produced in sophisticated superlabs as well as in kitchen-labs. These small, easily improvised kitchen labs form the overwhelming proportion of dismantled methamphetamine labs. The global number of dismantled labs grew strongly, from some 550 in 1990 to a record high of 18,500 in 2004, and then fell to 13,400 in 2005. In line with ATS production estimates, the proportion of labs producing amphetamine rose while the proportion of labs producing ecstasy and methamphetamine fell.

A similar pattern can be observed for seizures of ATS precursors, which is another key element in curtailing supply.[2] Expressed in ATS weight equivalents, ATS precursor seizures rose from 5 mt in 1990 to a record high of 323 mt in 2004. In 2005, they fell back to 54 mt. About half of the seized ATS precursors could have been used for the production of methamphetamine and a quarter each for the production of amphetamine and ecstasy.

Global seizures of ATS precursors in 2005 included:

- Ephedrine and pseudo-ephedrine, sufficient to produce some 28 mt of methamphetamine;
- P-2-P sufficient to produce around 1.5 mt of amphetamine, and phenyl acetic acid[3] sufficient to produce some 12 mt of amphetamine;
- 3,4-MDP-2-P (also known as PMK) sufficient to produce 10 mt of MDMA (ecstasy), piperonal sufficient to produce 2 mt of MDMA; and small quantities of safrole and isosafrole sufficient to produce some 11 kg of MDMA.[4]

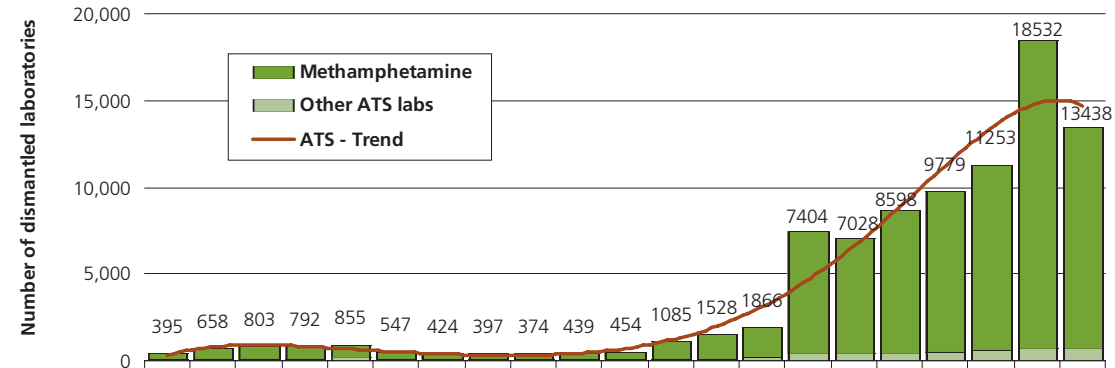
The strong decline of ATS precursor seizures in 2005 is linked to successes in precursor control, which works by preventing the diversion of chemicals into illicit manufacture. If suspicious precursor shipments are actually suspended or stopped, the amount of seizures will obviously go down. For instance, as a part of project PRISM (Precursors Required In Synthetic drug Manufacture), a task force involving several countries and international organizations, the International Narcotics Control

[2] Precursor seizure data, unless cited otherwise, have been taken from International Narcotics Control Board (INCB), *2006 Precursors and chemicals frequently used in the illicit manufacture of narcotic drugs and psychotropic substances*, New York 2007 (and previous years); hereafter cited as INCB, 2006 Precursors.

[3] P-2-P or 1-phenyl-2-propanone, also known as BMK, is typically used for the manufacture of amphetamine, but can be also used for methamphetamine; phenyl acetic acid is a precursor for the production of P-2-P and thus a 'pre-precursor' for the manufacture of amphetamine.

[4] Pipersonal, safrole and isosafrole are all 'precursors' for the production of 3,4-MDP-2-P and thus 'pre-precursors' for the manufacture of MDMA.

Fig. 101: Number of dismantled ATS laboratories, 1985-2005



	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Methamphetamine	271	524	661	644	680	438	329	319	285	321	398	967	1396	1658	7019	6609	8166	9323	10660	17851	12782
Other ATS labs	124	134	142	148	175	109	95	78	89	118	56	118	132	208	385	419	432	456	593	681	656
ATS lab	395	658	803	792	855	547	424	397	374	439	454	1085	1528	1866	7404	7028	8598	9779	11253	18532	13438

Source: UNODC, Annual Reports Questionnaire Data / DELTA.

Board (INCB), was informed of some 1,900 shipments involving ephedrine and pseudo-ephedrine between November 2004 and October 2005[5]. Between November 2005 and October 2006, over 2,200 shipments of ATS precursors were monitored. This resulted in 99 detailed investigations, including 40 cases involving 165 mt of ephedrine and pseudo-ephedrine that were interdicted or suspended. [6]

Precursor control is beginning to show results in squeezing the supply of raw material to illicit ATS labs. As a consequence, pre-precursors (such as ephedra-extracts) are increasingly being trafficked. In addition, new and rather unusual trafficking routes for precursor chemicals have developed in order to circumvent improved controls. The traffic in pseudo-ephedrine from Asia via the Democratic Republic of the Congo to North America[7] is thought to be one such route.

Methamphetamine production goes down in the USA

There are strong indications that domestic methamphetamine production in the USA has been falling.[8] This is reflected in the declining number of seized methamphetamine labs, from 17,199 in 2004 to 12,144 in 2005. Precursor control has also had a positive impact. Pseudo-ephedrine seizures in North America fell dramatically from a record 174.4 mt in 2004 to 0.6 mt in 2005. Ephedrine seizures also declined from 2.1 to 1.4 mt [9]. Expressed in ATS equivalents, the precursors seized in 2004 would have been sufficient to produce 118 mt of methamphetamine; those seized in 2005 would have been sufficient to produce only 1.3 mt.[10]

The USA also reduced the availability of over-the-counter (OTC) pharmaceutical preparations containing ATS precursors, notably pseudo-ephedrine. Similar controls in Canada (since 2003) reduced the flow of OTC preparations containing pseudo-ephedrine across the border. These efforts squeezed out large numbers of kitchen labs, and thus led to less US laboratory seizures in 2005 - a trend which appears to have continued in 2006.

Nonetheless, labs in the USA still accounted for 95 per cent of all dismantled methamphetamine labs world-

[5] INCB, *2006 Precursors*.

[6] 'Role of Project PRISM in countering synthetic drugs and their precursors', INCB presentation to the Conference "Europe-Asia Cooperation on Synthetic Drugs and their Precursors", Paris, 6-7 March 2007. These are substantial amounts. By comparison, total licit trade in ephedrine and pseudo-ephedrine is estimated at around 530 mt and 1,200 mt respectively. [Source: INCB, *2005 Precursors*]. The 165 mt of interdicted/suspended shipments could have been used to produce 110 mt of methamphetamine. Were this to have ended up on the illicit market, it would have increased global methamphetamine production by some 40 per cent.

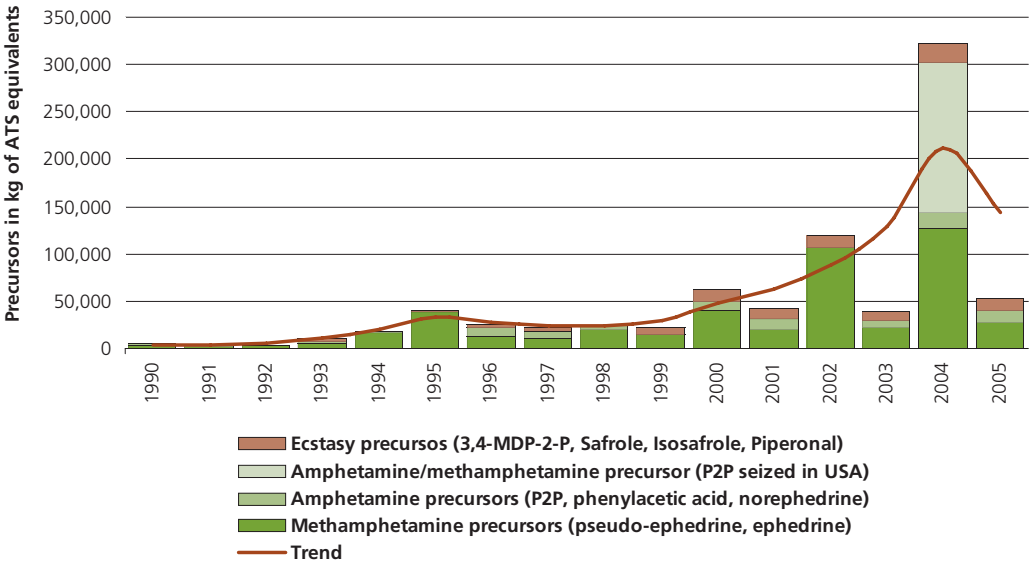
[7] INCB, *2006 Precursors.*

[8] Office of National Drug Control Policy, Drug Facts – Methamphetamine; *http://www.whitehousedrugpolicy.gov/drugfact/methamphetamine/index.html*

[9] INCB, *2006 Precursors.*

[10] Applying the higher production ratios used by the US authorities, reflecting higher levels of know-how and equipment than in many other parts of the world, the decline would be from a potential production capacity of 159 mt of methamphetamine in 2004 to 1.8 mt in 2005.

Fig. 102: Global seizures of ATS precursors, expressed in kilograms of ATS equivalents



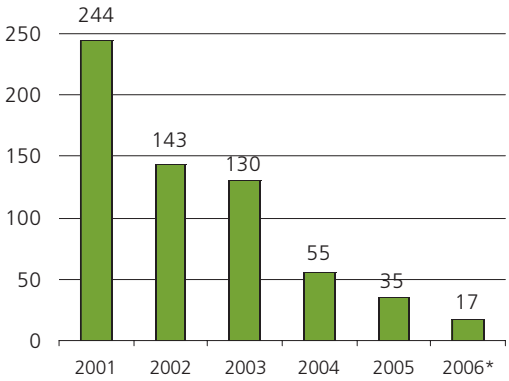
Source: UNODC calculations based on INCB, *2006 Precursors*, March 2007.

wide in 2005. Similarly, from 2004 to 2005, seizures of ephedrine and pseudo-ephedrine in the USA accounted for 76 per cent of global methamphetamine precursor seizures.

Methamphetamine production, which used to be concentrated in the west and the southwest, has now spread across the USA, with clandestine methamphetamine labs dismantled in all 50 states in 2005. The number of super-labs[11] dismantled has, however, been falling, from 244 in 2001 to 35 in 2005. A further decline is expected for 2006. Most of the super-labs (30 out of 35) were operating in California.[12]

Taking North America as a whole, the declines in the USA were partly offset by rising production in a few super-labs in Mexico. The number of methamphetamine laboratories dismantled in Mexico rose from 10 in 2002 to 18 in 2004 and 34 in 2005. Until recently pseudo-ephedrine and ephedrine were fairly readily available in the country. The Mexican authorities, however, have recently taken measures to counter the diversion of the two chemicals. These efforts reduced the import of ephedrine and pseudo-ephedrine by 40 per cent in 2005 (to 133 mt), with a further reduction of almost 50 per cent (to about 70 mt) expected for 2006.[13]

Fig. 103: Number of methamphetamine super-labs dismantled in the USA



* data for 2006 are not yet complete (up to early September)

Source: National Clandestine Laboratory Seizure System, quoted in National Drug Intelligence Centre, *National Drug Threat Assessment 2007*.

… remains a problem in East and South-East Asia …

Although the number of methamphetamine labs dismantled in East and South-East Asia increased in 2005 to 49, it remains lower than the levels reached in 2001

[11] A super-lab is defined as a clandestine laboratory that is able to produce more than 5 kg of the substance in 24 hours (INCB, 2005 Precursors).

[12] National Drug Intelligence Centre, *National Drug Threat Assessment 2007,* Oct. 2006.

[13] National Drug Intelligence Centre, *National Drug Threat Assessment 2007,* Oct. 2006; According to data collected by the INCB, the decline was from 177.8 mt of pseudo-ephedrine in 2004 to 107.7 mt in 2005 and from 118 kg ephedrine in 2004 to 64 kg in 2005, which is also equivalent to an overall decline of about 40 per cent.

(63) or in 1999 (64). Over the last decade, methamphetamine lab seizures have been reported in many countries throughout East and South East Asia. In order of importance these are: China, Thailand, the Philippines, Myanmar, Taiwan Province of China, the Republic of Korea, Cambodia, Hong Kong SAR of China, Indonesia, Vietnam, and Malaysia. For the year 2005, the highest numbers of dismantled labs were reported from China (37), the Philippines (7), and Myanmar (2), followed by Indonesia, Hong Kong SAR of China and Vietnam (tabletting machine).

The Democratic Republic of Korea also seems to manufacture methamphetamine. The Japanese authorities reported the dismantling of a North Korean trafficking syndicate, in May 2006, which was apparently working in close cooperation with Japanese criminal groups. Over the 1997-2002 period, approximately 40 per cent of all methamphetamine confiscated in large volume seizures in Japan, was believed to have originated in North Korea. This proportion has since declined significantly. According to Japanese authorities, since 2002, more than half of seized methamphetamine may have originated in China.[14]

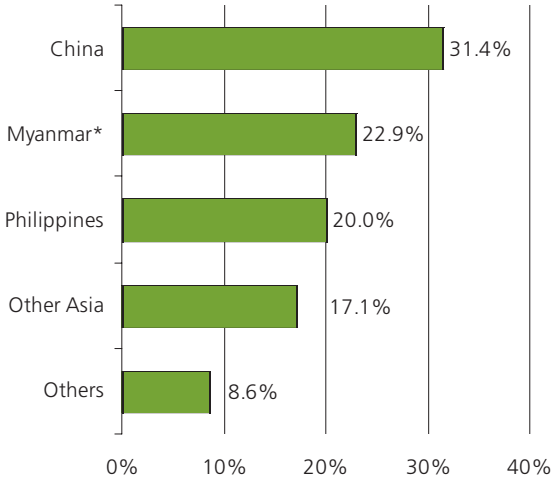
One indirect measure of methamphetamine production is to analyze the number of times a country is identified, by the country making the seizure, as the origin of the seized drug. This information is normally furnished in the Annual Reports Questionnaire. Based on this method,[15] over the 2003-05 period the three largest methamphetamine producers in the region seem to be China, followed by Myanmar, the Philippines and 'other Asia'. This includes countries such as Indonesia, the Lao PDR and India, mainly producing for the local market.

China reported dismantling 37 methamphetamine labs in 2005, and 51 labs in the first half of 2006. A third of the latter were in Guangdong province.[16] Indeed, most methamphetamine production in China seems to be taking place in the two southeastern provinces of Guangdong and Fujian. However, as controls in these provinces tighten, clandestine production is now spreading to many inland locations in provinces of central, southern and northern China.[17]

Methamphetamine production in Myanmar is mostly concentrated in the Shan State, which borders China and Thailand, and is produced mainly for export to those countries. Thailand reports that most of the methamphetamine on its markets originates in Myanmar, and is trafficked across the border or via the Lao PDR and Cambodia. This trafficking route is thought to be growing. The strongest growth, however, is currently in methamphetamine destined for the Chinese market. For 2006 the Chinese authorities reported that 55 per cent (up from a third in 2005) of all of their methamphetamine seizures took place in Yunnan province. This suggests that methamphetamine produced in Myanmar is increasingly penetrating the Chinese market and partly offsetting the successes in dismantling illicit labs.[18]

Methamphetamine produced in the Philippines supplies both the domestic market and neighbouring countries. It has been concentrated for some time in the Metro Manila area. Determined efforts to dismantle clandestine labs led to a shortage of the drug and caused

Fig. 104: Origin[a] of methamphetamine as reported by Asian countries, 2003-2005



* Number of times a country was identified by other Asian countries as a source country for methamphetamine production over the 2003-05 period, expressed as a proportion of all such reports obtained (N = 35) 'Origin' refers to the countries to which drug shipments could be traced back.

Source: UNODC, Annual Reports Questionnaire Data / DELTA.

[14] Presentation by Hiroto Yoshimura, Deputy Commissioner General of the National Police Agency of Japan, to the 50th Commission on Narcotic Drugs, Vienna, March 12-16, 2007.

[15] This information was obtained from 10 reporting Asian countries over the 2003-2005 period.

[16] Office of China National Narcotics Control Commission (NNCCC), The Current ATS Problem and Control Situation in the PRC, Sept. 20, 2006.

[17] Zhao Wanpeng (Deputy Director of International Cooperation Division, Narcotics Control Bureau, Ministry of Public Security, People's Republic of China) "Measures Implemented in China for the prevention of Illicit Production of Synthetic Drugs and their Precursors", Presentation at Conference "Europe-Asia Cooperation on Synthetic Drugs and their Precursors", Paris, 6-7 March 2007.

[18] ibid.

prices to more than double in Manila in 2006. Methamphetamine production is now increasingly found in other provinces, including in the region of Mindanao, which has been suffering from a local insurgency for years.[19]

A further, indirect indication of methamphetamine production can be derived from the geographical location of ephedrine and pseudo-ephedrine seizures. The largest such seizures in Asia over the 2004-2005 period were reported from China (which is also one of the main licit producers of ephedrine and pseudo-ephedrine), followed by the Philippines, Myanmar, Indonesia and India (another major licit producer of ephedrine and pseudo-ephedrine), and at far lower levels, Hong Kong SAR of China and Thailand. Taken together, the Asian countries accounted for 89 per cent of the world's ephedrine and pseudo-ephedrine seizures in 2005.[20]

… shows signs of stabilization in Oceania …

Following several years of massive increase, there are now the signs that domestic methamphetamine production in Oceania could be stabilizing. Several indicators from Australia point in this direction. A large majority of Australian methamphetamine users reported that availability had stabilized in 2005. For 2004/05, the Australian authorities dismantled 381 ATS labs, most of which were producing methamphetamine, up from 199 labs in 2000/01. Seizures of ephedrine, pseudo-ephedrine and P-2-P all rose in 2005. Methamphetamine prices increased by some 70 per cent between 2000 and 2005.[21] In 2006, monitoring and control of the sale of pharmaceutical preparations containing pseudo-ephedrine were improved. Amongst other measures, a computer system which permits pharmacists to track the purchases of pseudo-ephedrine products by their clients is now being implemented across the country. First evaluations of this system seem to suggest that it has contributed to a reduction in domestic methamphetamine production. Against this backdrop of stabilizing of domestic production, it appears that attempts are being made to import methamphetamine, including crystal-ice, from South-East Asia, notably from China.[22]

… remains limited in Europe …

Methamphetamine production in Europe continues to be limited to a few countries. For 2005 only the Czech Republic and the Republic of Moldova reported dismantling methamphetamine labs. Over the last decade, the Czech Republic, the Republic of Moldova and Slovakia have reported lab seizures consistently. Occasional lab seizures have been made in the Ukraine, Germany, the UK, Lithuania and Bulgaria. There are some indications that methamphetamine production might be taking place in the Russian Federation, though no lab seizure has been reported.[23]

The total number of dismantled labs in Europe shows, nonetheless, a clear upward trend, increasing from less than 20 in 1995 to 127 in 2000 and 310 in 2005. Because the majority of these are small kitchen labs, the actual production of methamphetamine is still limited. Although still tiny compared to amphetamine, the amount of methamphetamine seized in Europe rose more than four-fold between 2000 and 2005.

Europe as a whole accounted for about 6 per cent of global ephedrine seizures over the 2004-2005 period. Listed in order of importance, the following European countries reported seizures of methamphetamine precursors over the same period: the Czech Republic, Greece, the Russian Federation, the UK, Bulgaria, Germany, Iceland, Romania, Hungary, Slovakia, the Ukraine, France, Norway and Latvia. In 2006, EUROPOL noted increased export, transshipment and diversion of ephedrine and pseudo-ephedrine to the European Union.[24]

… and is developing into a problem in southern Africa

Methamphetamine production is becoming a problem in South Africa. This is also reflected in demand indicators, notably in Cape Town. The number of dismantled methamphetamine labs has been rising steadily, from only 1 in 2002 to 4 in 2004 and 11 in 2005. Both ephedrine and pseudo-ephedrine, mainly originating in China, are now being seized in the country. Thus far there are no indications that methamphetamine is produced for export.

[19] U.S. Department of State, *2007 International Narcotics Control Strategy Report,* March 2007.

[20] INCB, *2006 Precusors.*

[21] UNODC calculation, based on NDARC, *Australian Drug Trend 2005, Findings from the Illicit Drug Reporting System (IDRS),* NDARC Monograph No. 59, Sydney 2006. Prices weighted by reported methamphetamine offences.

[22] Australian Crime Commission (ACC), *Illicit Drug Data Report 2004-2005,* May 2006.

[23] The Russian Federation has only reported the seizure of amphetamine labs; many of these labs may, however, have produced methamphetamine. The main ATS precursors seized in Russia is ephedrine. This would point towards the production of methamphetamine (or methcathinone, locally known as ephedrone). In contrast, no seizures of P-2-P or of phenyl acetic acid, which could confirm the production of amphetamine in the country, were reported in recent years.

[24] EUROPOL, "Production and Trafficking of Synthetic Drugs and Precursors", The Hague, 1 March 2007.

Global amphetamine production shows an upward trend

Global amphetamine production appears to be rising. The number of labs dismantled rose from 336 in 2000 to 499 in 2004 and 569 in 2005.[25] Amphetamine seizures rose four-fold between 2000 and 2005 and more than doubled from 2004 to 2005.

Most illicit amphetamine production continues to take place in Europe, which had 80 per cent of the 187 labs seized worldwide. Similarly, of a total of 24 countries reporting the dismantling of amphetamine labs between 2000 and 2005 period, 18 were in Europe. In 2005, the largest number of labs seized in Europe was reported from the Russian Federation (108),[26] followed by Poland (20), the Netherlands (8), Belgium (6), Germany (6), Lithuania (1) and Belarus (1). A year earlier, Bulgaria (7), Spain (2), Estonia (1) and Norway (1) had also reported the dismantling of amphetamine labs.

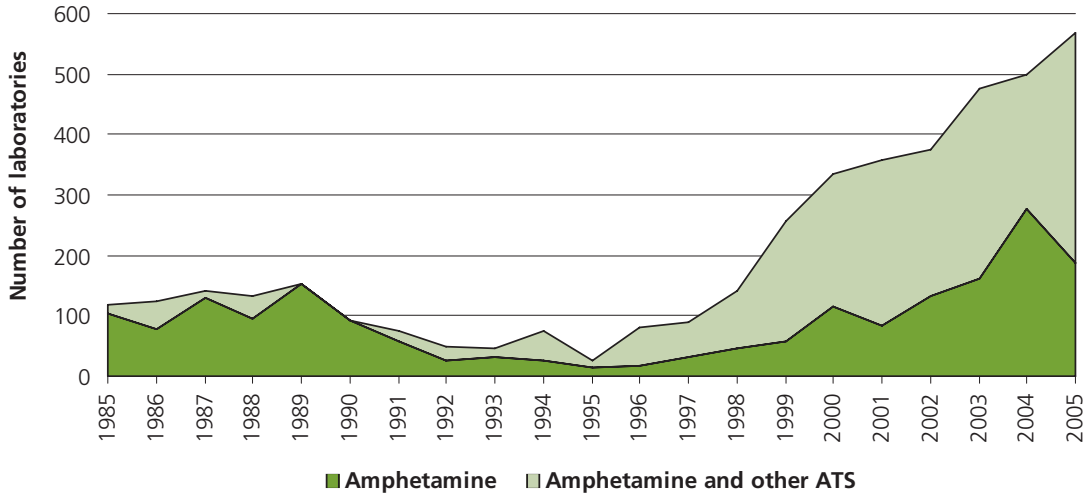
In the Russian Federation, seizures of ephedrine suggested that methamphetamine was the main ATS being produced. According to EUROPOL, however, the precursor BMK (or P-2-P, normally used to produce amphetamine) originating in Russia was identified in the European Union in 2004. These precursors were marked with 4-Tert-Butyl (the so-called TB-Factor) and their origin could thus be identified. They were trafficked from Russia via Latvia or Belarus, Lithuania, Poland and Germany to amphetamine production facilities in Belgium, the Netherlands and Poland. They appear to have increasingly replaced BMK from China.[27] Given the apparent availability of BMK in Russia, a significant number of the dismantled labs could indeed have produced amphetamine for the domestic market. There are no indications that amphetamine produced in Russia was exported.

Apart from the Russian Federation, the largest numbers of amphetamine labs dismantled over the 2000-2005 period were in Poland (91) and the Netherlands (60), followed by Germany (18), Bulgaria (15), Belgium (14) and the UK (12).

Outside Europe, the largest numbers of amphetamine labs seized in 2005 were reported from South Africa (28) and the USA (9). In previous years, lab seizures were also reported from Canada (22 in 2000), Indonesia (6 in 2003), Mexico (1 in 2003) and Chile (1 in 2002). In addition, a number of amphetamine labs are dismantled each year in Australia.

As discussed above in the case of methamphetamine, another indirect measure of production is the origin of amphetamine seizures, as identified ("mentioned") and reported by Member States. Europe as a whole accounts for 83 per cent of such mentions. On this basis, the largest amphetamine production seems to take place in

Fig. 105: Number of dismantled amphetamine laboratories reported to UNODC, 1985-2005



Source: UNODC, Annual Reports Questionnaire Data/DELTA.

[25] These figures include reports from countries which were not in a position to differentiate types of ATS labs

[26] As noted above, there are some indications that at least some of these laboratories may have actually produced methamphetamine.

[27] EUROPOL, "Production and Trafficking of Synthetic Drugs and Precursors", The Hague, 1 March 2007.

the Netherlands (24% of mentions), followed by Poland (15%) and Belgium (9%), followed by the Baltic region (Lithuania and Estonia), the Balkan region (Serbia & Montenegro, Bulgaria, Bosnia & Herzegovina) and Germany. Comparing these results with those of previous years, it looks as though the importance of the Netherlands, Belgium and Germany as amphetamine producers has been declining, and production has been shifting towards Eastern Europe.

Seizures of amphetamine precursor parallel the pattern mentioned above. Over the 2004-05 period most amphetamine precursor seizures (P-2-P) took place in the Netherlands (6,620 litres) and Poland (4,996 litres). The next largest seizures were reported by Germany (1,310 litres). Smaller quantities have been reported from Estonia (27 litres), Ireland (26 litres), Lithuania (24 litres), Belarus (18 litres) and Bulgaria (16 litres). If the period under investigation is extended, important P-2-P seizures were also reported from Belgium (4000 litres in 2001) and the UK (120 litres in 2002). Over the last five years the Netherlands reported the largest P-2-P seizures in Europe annually; but these seizures have been falling (from 18,238 litres in 2001 to 340 in 2005).

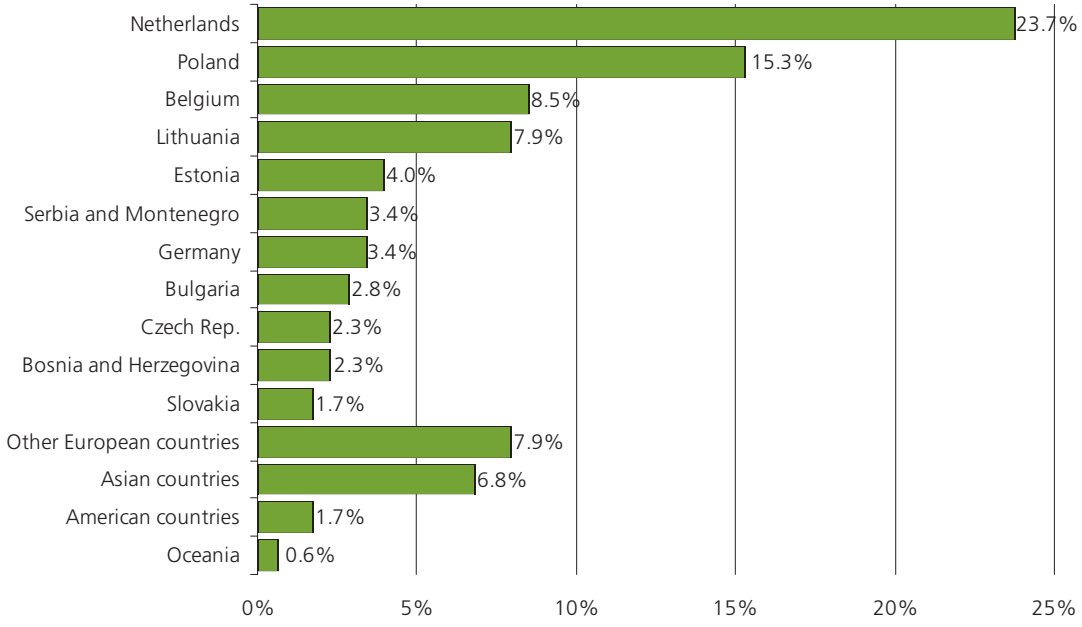
Global ecstasy production falls – reflecting declines in Europe, the main production area

The number of ecstasy labs dismantled fell by 40 per cent in 2005 to just 52 labs, 20 per cent less than in 2000. Seizures of ecstasy precursors also fell by 40 per cent in 2005. In parallel, global ecstasy seizures fell by one third in 2005. All of this suggests that global ecstasy production, after strong increases in the 1990s, is now shrinking, primarily because of production falling in Europe.[28] Production in several other parts of the world, in contrast, continues expanding.

Over the 2000-2005 period (n = 379), 42 per cent of all ecstasy labs were dismantled in Europe, 41 per cent in the Americas, 8 per cent in Asia, 7 per cent in Oceania and 2 per cent in Africa. Since 2003, more labs have been dismantled in the Americas than in Europe, and ecstasy for domestic consumption in North America is increasingly being produced locally. Most US ecstasy seizures now take place along the Canadian border. The proportion of ecstasy smuggled out of Europe (traditionally from the Netherlands) to the USA, has declined in recent years. In parallel, there are also reports of increasing production of ecstasy in South-East Asia.

Fig. 106: Origin of amphetamine, 2003-2005

(Information based on 177 mentions on the origin of domestic amphetamine seizures from 38 countries over the 2003-05 period)



Source: UNODC, Annual Reports Questionnaire Data/DELTA.

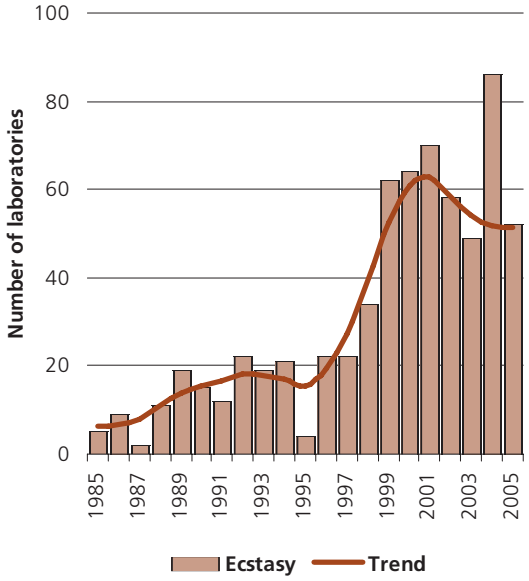
[28] The falling trend in Europe has been also identified by EUROPOL, "Production and Trafficking of Synthetic Drugs and Precursors", The Hague, 1 March 2007.

The largest numbers of ecstasy labs dismantled in 2005 were reported from Canada (19) and the USA (18), followed by the Netherlands (8) and Belgium (5). In addition, some ecstasy labs were dismantled in Australia, but were included under the category of ATS laboratories, with no detailed breakdown provided. Ecstasy labs were also seized in Indonesia and India in 2005.

Over the 2000-2005 period, the largest numbers of ecstasy labs were dismantled in the Netherlands (111), followed by the USA (83), Canada (71) and Belgium (26). Double-digit numbers of seized labs were reported from Australia, Indonesia and China. Five or more laboratories were dismantled in the UK, South Africa, Hong Kong SAR of China and Estonia. Non-European seizures of labs included New Zealand, Mexico, Argentina, Egypt, India and Malaysia.

In terms of the origin of ecstasy seizures reported ("mentioned") by Member States, more than a third of the reporting countries (35%) continue to mention the Netherlands as the main source country (2003-05 period), followed by Belgium (9%). Europe as a whole accounts for 81 per cent of such mentions. There may be a statistical bias, however, as 60 per cent of the coun-

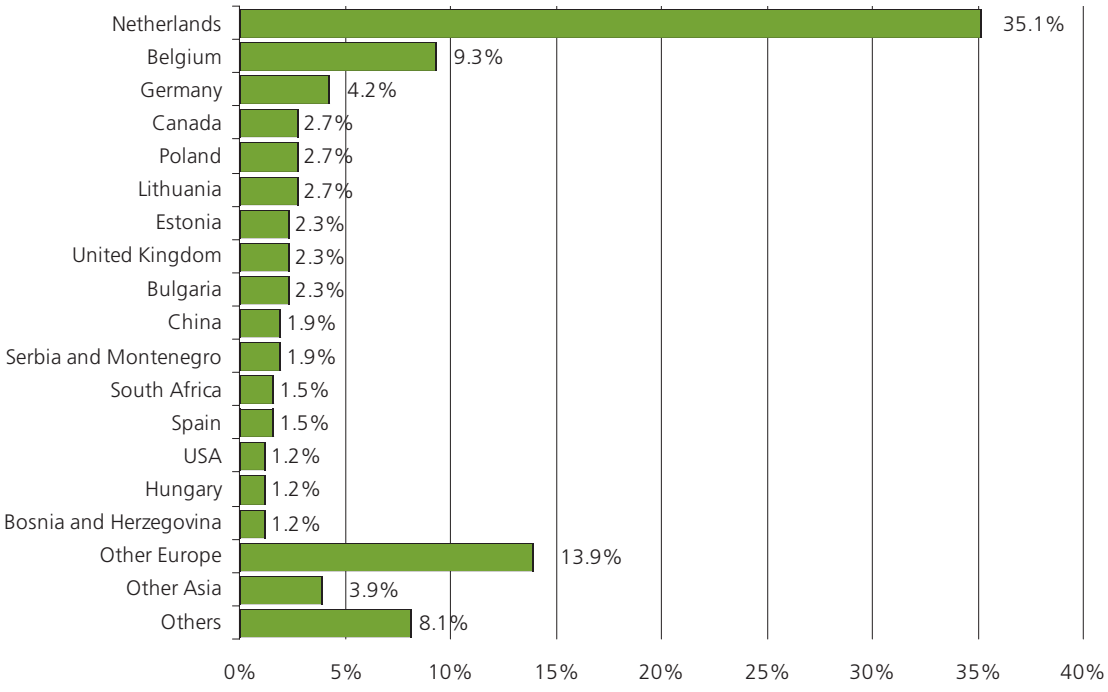
Fig. 108: Number of dismantled 'ecstasy' laboratories, reported to UNODC, 1985-2005



Source: UNODC, Annual Reports Questionnaire Data/DELTA.

Fig. 107: Origin of ecstasy, 2003-2005

(Information based on 259 mentions on the origin of domestic ecstasy seizures from 57 countries over the 2003-05 period)



Source: UNODC, Annual Reports Questionnaire Data.

tries[29] reporting on the origin of ecstasy were actually European countries (34 out 57), which are more likely to cite other European countries as the source of ecstasy found on their markets. Country origin mentions suggest that the role of the Netherlands as the key production centre for ecstasy is declining in importance. While over the 2002-04 period, 39 per cent of all mentions referred to the Netherlands, this proportion fell to 32 per cent by 2005. Countries outside Europe which are frequently mentioned as sources of ecstasy include Canada, China, South Africa, USA as well as Hong Kong SAR of China.

European seizures of ecstasy precursors (expressed in potential ecstasy equivalents) accounted for 60 per cent of global ecstasy precursor seizures over the 2001-2005 period. By 2005, this proportion fell to 32 per cent, another indication that ecstasy production is falling. The largest ecstasy precursor seizures in Europe, mainly (3,4-MDP-2-P or PMK), have been reported from the Netherlands over the 2001-2005 period. However, this is declining, from almost 11,000 litres in 2001 to 1,762 litres in 2005. Dutch ecstasy production may therefore be going down. PMK is seized in other European countries, but seizures tend to be sporadic. The largest PMK seizures in 2004 were reported from Belgium (3,840 litres), and in 2005 from France (3,960 litres). The largest PMK seizures outside Europe have been reported from China (5,331 litres in 2004) and from Hong Kong SAR of China (3,356 litres in 2005).

Up until late 2004, large quantities of PMK were smuggled into major European Union ports such as Antwerp, Hamburg and Rotterdam. Greater cooperation between Chinese and European authorities appears to have reduced this flow. According to EUROPOL, illicit PMK prices rose in the European Union in 2005 and 2006, indicating an emerging shortage on the market. Ecstasy production at significant levels nonetheless continued. This has raised questions about the origin of ecstasy precursors in Europe. Some of them still appear to come from China, but a great variety of new routes have been identified, including overland by rail via Central & West Asia and East Europe, and by sea via Asia and Africa.[30]

ATS markets in Africa and South America are mainly supplied by diversions from licit trade

ATS production continues to be limited in South America and in Africa. The main exception here is South Africa where ATS production, notably methamphetamine and methcathinone, has increased substantially in recent years. Between 1995 and 1999, South Africa used to report, on average, the dismantling of one lab per year. This figure increased to 27 labs in 2004 and 39 in 2005.

Though domestic production of ATS is limited in Africa and South America, drug use surveys conducted in the two regions show that ATS consumption is far from negligible. This means that the markets are supplied by ATS diverted from legitimate pharmaceutical trade. In fact, the defined daily dose per 1000 inhabitants for legally produced ATS in the Americas amounts to more than 10, as compared to rates between 1 and 2 in Europe and Asia.[31]

Countries in North Africa and the Near and Middle East are also affected by ATS that are apparently produced in the illicit sector, although the actual location of this production is not known. The best examples here are 'Maxiton Forte' and 'Captagon'. The former used to be a pharmaceutical preparation of dexafetamine, produced in France, but its production has long ceased. There are some indications that the 'Maxiton Forte' being sold on illicit markets in Egypt today could actually be methamphetamine, selling under the old brand name. However, the source of production is not known. In Saudi Arabia and its neighbouring countries, there is another ATS market for 'Captagon' (originally the trade name for fenetylline). 'Captagon', which nowadays is mainly amphetamine, is smuggled to the Near and Middle East usually via Bulgaria, Turkey, Syria and Jordan. The Turkish authorities reported increasing seizures of this substance in 2006.[32]

[29] The total number of countries providing information to UNODC over the 2000-2005 period was 190, of which 43 or 23 per cent were countries located in Europe. The total number of countries providing data on ecstasy seizures over the 2000-2005 period was 103, of which 42 were located in Europe (41%). A proportion of 60 per cent of countries reporting on the origin of ecstasy, being located in Europe, thus signals over-sampling.

[30] EUROPOL, *Production and Trafficking of Synthetic Drugs and Precursors*, The Hague, 1 March 2007.

[31] This refers to 'S-DDD' (defined daily doses for statistical purposes) per 1000 inhabitants for legally produced Schedule-IV stimulants; see INCB, *2006 Psychotropic Substances*.

[32] Ministry of Interior / Turkish National Police, Turkish Report on Drugs and Organized Crime 2006, March 2007.

1.5.3 Trafficking

ATS seizures are higher than a decade ago, but still lower than at the beginning of the new millennium

Trafficking in ATS end-products is still mainly intra-regional, while trafficking in the ATS precursors continues to be predominantly inter-regional.

Global ATS seizures increased again in 2005 to 43.4 mt but remained 11 per cent lower than in 2000, indicating a stabilisation of trafficking at the global level. A total of 104 countries and territories reported seizures of ATS to UNODC in 2005, a number similar to reports received in 2000 (99), although more than in 1995 (61) and 1985 (40).

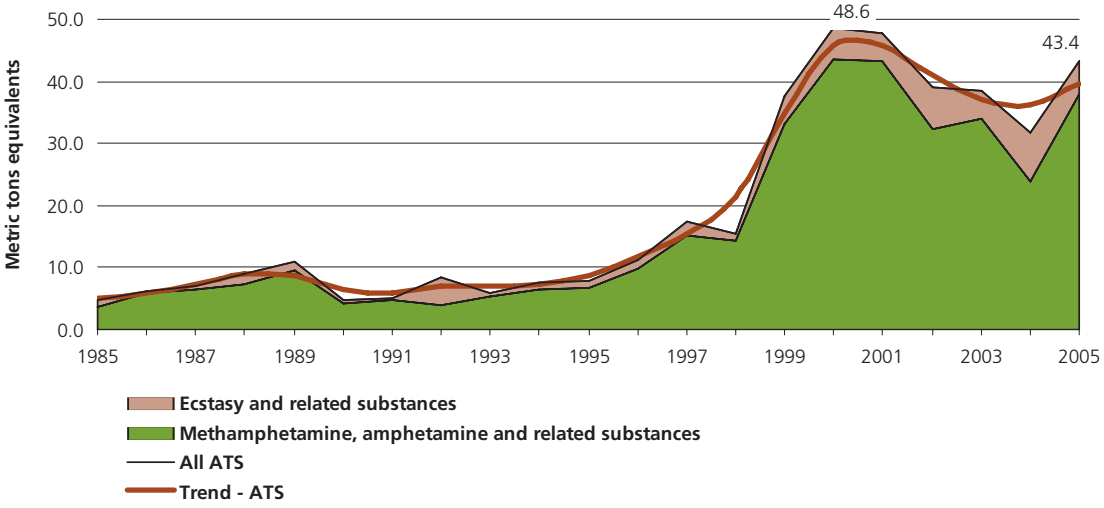
Methamphetamine continues to account for the bulk of global ATS seizures

In 2005, as in previous years, most ATS seizures contained methamphetamine. Out of all ATS seizures (N=43.4 mt), methamphetamine accounted for 40 per cent, amphetamine for 30 per cent and 'non-specified amphetamines'[1] for 18 per cent. The 'amphetamines' as a group, constituted 88 per cent of all ATS seizures, with ecstasy accounting for the remaining 12 per cent.

If the period examined were expanded to 2000-2005, the share of methamphetamine would account for 49 per cent, clearly ahead of 'non-defined amphetamines' (23 per cent), amphetamine (15 per cent) and ecstasy (14 per cent). (The category 'ecstasy seizures' comprises the whole ecstasy group, i.e. seizures of MDMA, MDA and MDME, though the bulk, more than 90 per cent of ecstacy seizures, comprise MDMA.)

While methamphetamine seizures increased in 2005, they still only reached half the level reported in 2000. Ecstasy seizures declined in 2005 and are now back to levels reported in 2000/01. In contrast, amphetamine

Fig. 109: Seizures* of amphetamine-type stimulants (ATS), 1985-2005

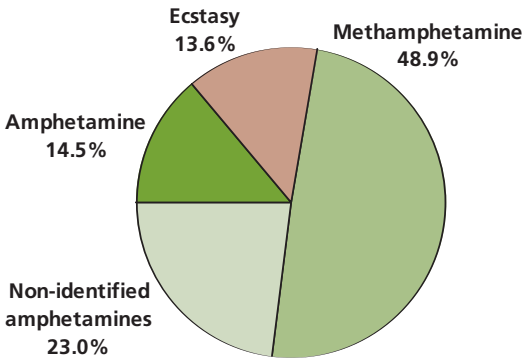


* Note: Seizures reported in kilograms, litres and units, where a unit (pill) of ecstasy was assumed to contain on average 100 mg of MDMA; a unit of amphetamine/ methamphetamine was assumed to contain 30 mg of amphetamine/methamphetamine; a litre was assumed to equal a kilogram. Until 1999 'other hallucinogens' are included in data for ecstasy, but the proportion of 'ecstasy' in the total seems to have exceeded 90 per cent in most years (2000-2005: 90 per cent-95 per cent)

Source: UNODC, Annual Report Questionnaire Data/DELTA.

[1] The category of 'not-defined ATS', 'non-defined amphetamines' or 'non-specified amphetamines' comprises stimulants where the authorities were not in a position to make the appropriate distinction or identification as well as seizures of substances such as Methcathinone (ephedrone), 'Captagon' (originally fenetylline, today probably amphetamine) and 'Maxiton Forte' (originally dexamfetamine, today likely to be identified as methamphetamine).

Fig. 110: Breakdown of ATS seizures, by substance, 2000-2005 (N=34 tons p.a.)



Source: UNODC, Annual Report Questionnaire Data / DELTA.

seizures have shown a clear upward trend from the late 1990s to 2005. The decline of 'non-identified amphetamines' between 2001 and 2005 reflects the lower seizures of 'Maxiton Forte' reported by Egypt. The increase in 2005 is due to higher 'Captagon' seizures reported by Saudi Arabia.

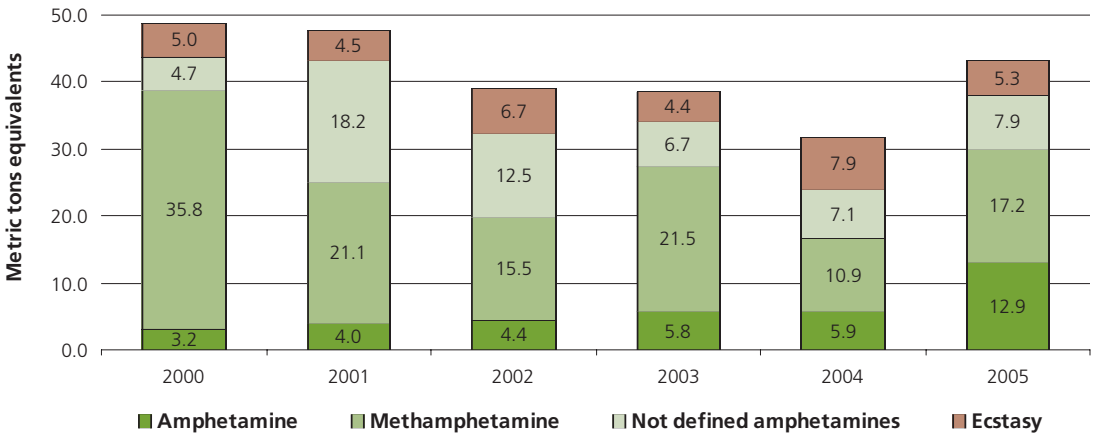
During the period 2004-05, the world's largest ATS seizures took place in East and South-East Asia (32 per cent), followed by West and Central Europe (25 per cent), and North America (18 per cent). Seizures in North Africa (6 per cent), mainly reflect 'Maxiton Forte' in Egypt. Similarly seizures in the Near and Middle East Region (6 per cent), are 'Captagon' tablets seized in Saudi Arabia and neighbouring countries.

If the 2005 data were considered in isolation, East and South-East Asia accounted for 38 per cent of global ATS seizures, West and Central Europe for 18 per cent, North America for 17 per cent and the Oceania region as well South-East Europe, North Africa and Sub-Saharan Africa for 4 per cent each.

The year on year increase of ATS seizures in 2005 was particularly pronounced in East and South-East Asia where they doubled and returned to levels reported in 2003. However, they still remained below the levels reported in 1999 and 2000. Stronger increases, albeit from lower levels, were reported from the Near and Middle-East region were ATS seizures showed a 9-fold increase in 2005, mainly reflecting large increases in 'Captagon' seizures in Saudi Arabia during 2005. In southern Africa and in West and Central Africa, ATS seizures rose 5-fold in 2005. The overall ATS seizure levels in Africa are still lower than levels reported in 2001/2002 due to Egypt's decrease in 'Maxiton Forte' seizures. ATS seizures in West and Central Europe declined in 2005.

The largest national ATS seizures in 2005 were reported from China (23 per cent), followed by the United States of America (14 per cent) and Saudi Arabia (8 per cent). China and the USA seized primarily methamphetamine, both produced locally or smuggled into the country from a direct neighbour (Myanmar and Mexico, respectively). Saudi Arabia seized primarily 'Captagon' tablets which had been shipped across several borders from South-East Europe. Other large ATS seizures in 2005 were reported by Taiwan province of China (7 per cent), the Netherlands (6 per cent), Thailand (5 per

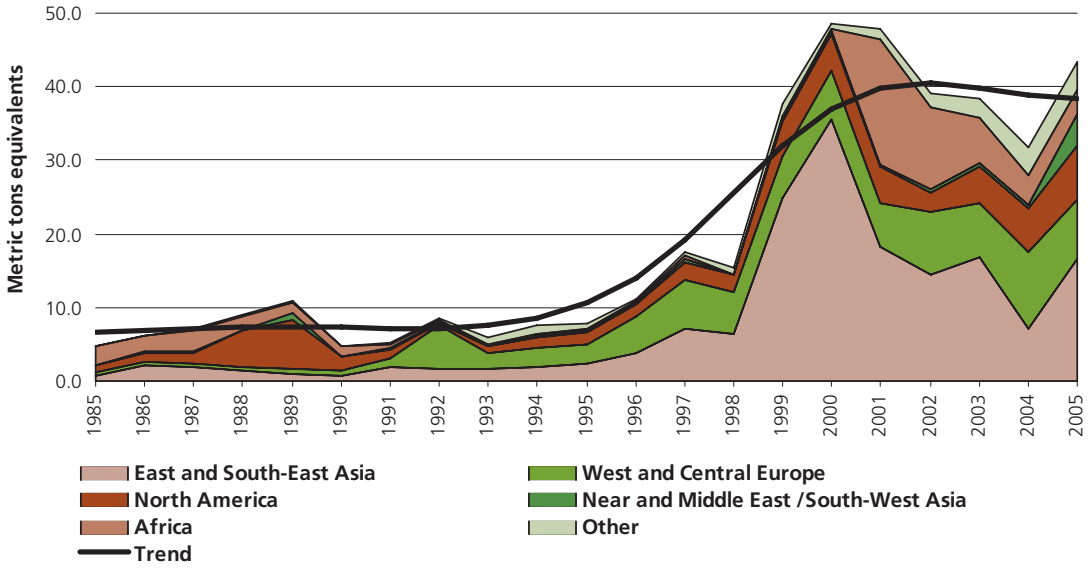
Fig. 111: Seizures of ATS – by substance, 2000-2005



* Note: Seizures reported in kilograms, litres and units, where a unit (pill) of ecstasy was assumed to contain on average 100 mg of MDMA; a unit of amphetamine/ methamphetamine was assumed to contain 30 mg of amphetamine/methamphetamine; a litre was assumed to equal a kilogram.

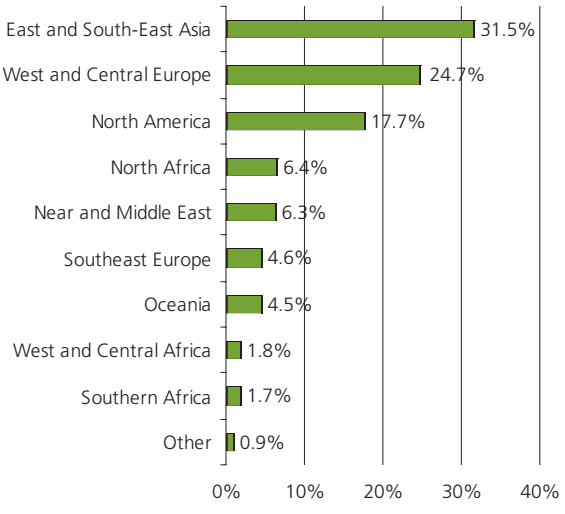
Source: UNODC, Annual Report Questionnaire Data/DELTA.

Fig. 112: Global ATS seizures, in metric ton equivalents, 1985-2005



Source: UNODC, Annual Report Questionnaire Data/DELTA.

Fig. 113: Distribution of global ATS seizures in metric ton equivalents, 2004-2005



Source: UNODC, Annual Reports Questionnaire Data/DELTA.

cent), the UK[2] (4 per cent), Australia (4 per cent), Egypt (3 per cent), Bulgaria (3 per cent), South Africa (2 per cent), Burkina Faso (2 per cent), Mexico (2 per cent) and Germany (2 per cent).

Trafficking in methamphetamine

Although the trade appears to be spreading, the main methamphetamine trafficking destinations remain East and South-East Asia and North America.

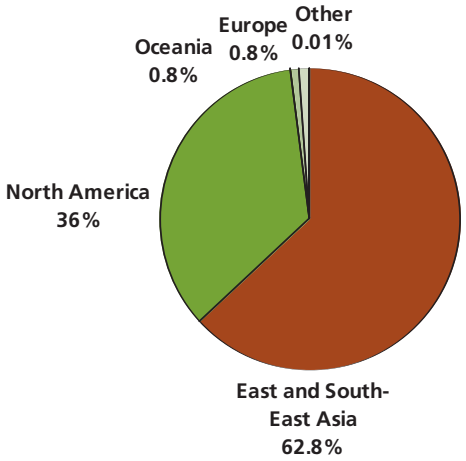
Although the overall amounts of methamphetamine seized in 2005 were substantially lower than in 2000, there is still an ongoing geographical spread of methamphetamine trafficking that warrants attention. In total, 51 countries reported methamphetamine seizures to UNODC in 2005, an increase from 43 countries in 2004 and 32 in 2000.

Sixty three per cent or 17 mt of global methamphetamine seizures continue to be reported from countries in East and South-East Asia; 36 per cent are seized by North American countries. In comparison to 2004, the proportion of East and South-East Asia in the global methamphetamine seizures increased from 58 per cent to 69 per cent, while North America declined from 38 per cent to 36 per cent. In 2005, methamphetamine seizures in the regions of Oceania and Europe, accounted for 0.8 per cent of global methamphetamine seizures respectively. While methamphetamine seizures in Europe remain very low, reflecting the limited availability of methamphetamine on the European market, an upward trend has become discernable. European

[2] Data for the UK reported in the 2005 ARQ refers to the calendar year 2005.

seizures of methamphetamine rose more than 4-fold over the 2000-05 period.

Fig. 114: Regional breakdown of methamphetamine seizures in 2005 (N = 17.2 metric tons)



Source: UNODC, Annual Reports Questionnaire Data/DELTA

According to reports to UNODC, the rest of the world accounted for a mere 0.02 per cent of the global methamphetamine seizures. However, if the 'Maxiton Forte' seized in Egypt were to be identified as methamphetamine and the ATS seized in South Africa were to constitute largely methamphetamine overall seizures would increase significantly. The North African proportion in global methamphetamine seizures would rise to 7 per cent, and South Africa to 5 per cent. Under these assumptions around 12 per cent of the global methamphetamine seizures could have taken place in Africa. Between 2005 and 2006 several shipments of ephedrine and pseudo-ephedrine were intercepted between Asia and Africa. While it is possible that they were destined for North America several of them could have equally been headed for Africa. In South Africa, ATS seizures have clearly shown an upward trend over the last few years. In contrast, in Egypt 'Maxiton Forte' seizures fell by more than 90 per cent over the 2001-2005 period, even though they increased again in 2006.

The largest methamphetamine seizures at the global level in 2005 were reported by China (6.8 mt, or 39 per cent), followed by the USA (5.1 mt, or 30 per cent) and Thailand (2.3 mt, or 14 per cent). The shift in the top seizure rankings over recent years reflects both the nature of the drug problem as well as national authorities' reaction to it. For example, China's reported doubling of its methamphetamine seizures in 2005, and subsequent maintenance of this level in 2006 indicates the Chinese authorities are taking the methamphetamine production, trafficking and abuse very seriously. In 2004 the world's largest methamphetamine seizures were reported by the USA, followed by China and Thailand. Previous to that, during most of the 1990s as well as in 2002 and 2003, Thailand had the world's highest methamphetamine seizures. Domestic production and large-scale trafficking of methamphetamine from neighbouring Myanmar had left the country with a large scale problem. Concerted government intervention in 2003 led to a shrinking of the market that has been substained.

The next largest of methamphetamine in 2005 were reported from Mexico (5 per cent), Taiwan Province of China (3 per cent), Indonesia (2.1 per cent), Myanmar (1.6 per cent), Hong-Kong SAR of China (1.5 per cent), Japan (0.7 per cent), Australia (0.7 per cent), the Philippines (0.7 per cent) and Canada (0.5 per cent). If the 'Maxiton Forte' seizures of Egypt and the ATS seizures of South Africa were added, the seizures in the latter two countries would have exceeded seizures made by Mexico.

Methamphetamine trafficking remains predominantly intra-regional in East and South-East Asia

Throughout the world, trafficking of methamphetamine remains largely intra-regional, with labs producing only for the domestic market or for neighbouring countries. While this also applies to South-East Asia, a few trends have surfaced in recent years which link South-East Asia with the Oceania region and North America.

Important trafficking routes in South-East Asia are:

- From Myanmar to China: trafficking along this route has increased. In 2006, the Chinese authorities reported some 55 per cent of their total methamphetamine seizures as having taken place in Yunnan province bordering Myanmar, a significant increase from 18 per cent in 2002.
- From Myanmar to Thailand: either directly (26 per cent in 2005) or indirectly via the Lao PDR (65 per cent) or Cambodia. Although traditionally only 'yaba' (methamphetamine tablets) originated in Myanmar, over the last few years 'ice' (crystal methamphetamine) has been reported as originating in Myanmar.
- From Myanmar to the north-eastern provinces of India and Bangladesh;
- From Myanmar via Thailand to Malaysia and Brunei Darussalam as final destinations.
- From China to Hong Kong SAR of China, the Philippines, Malaysia, Republic of Korea, Taiwan province of China and/or Japan.
- From Hong Kong SAR of China to Japan, Australia, New Zealand, Guam (USA), and Thailand.

- From the Philippines to the Republic of Korea, Malaysia, Brunei Darussalam, Taiwan province of China, Japan, Australia, New Zealand, the USA (including Guam), Canada and Spain (small quantities).
- From Thailand to Malaysia, Taiwan province of China, the Republic of Korea as well as to various other international markets, including the United Kingdom (small quantities).

In 2005, the authorities of the Republic of Korea reported that 70 per cent of the trafficked and seized methamphetamine originated from China, 22 per cent from the Philippines and 4 per cent from Canada. In addition, the USA was identified as a source country in both 2003 and 2004.[3]

Japan remains the most lucrative methamphetamine market in East and South-East Asia. Methamphetamine continues to be smuggled into Japan primarily from the People's Republic of China (more than 50 per cent of the identified seizures since 2002) as well as from a number of other countries in the region, including the Philippines, Taiwan province of China and Thailand (Myanmar). There have also been reports of methamphetamine shipments from Canada to Japan and occasionally even from the USA. In Japan, more than half of the drug trafficking importation and dealing is undertaken through the Japanese organized crime groups, called *Boryokudan*. In May 2006, the Japanese authorities dismantled a major North Korean drug trafficking syndicate which cooperated with the Boryokudan. This provided evidence that the Democratic People's Republic of Korea is another important source country for the methamphetamine found on the Japanese market. Immediately after the dismantling of this "network", methamphetamine retail prices increased markedly in Japan responding to the interruption in supply.[4]

Interregional trafficking of methamphetamine persists in North America

The bulk of methamphetamine-related trafficking in North America takes place within the USA and from Mexico to the USA. The export of methamphetamine produced in North America to other regions remains marginal (mostly linked to some trafficking of methamphetamine from Canada to Japan).

However, cross-national trafficking within the North American region is gaining importance. While there is some smuggling of methamphetamine from Canada to the USA, the most significant development of the methamphetamine trade in North America over the last few years has been intensified smuggling to the United States from Mexico. Methamphetamine is thought to be increasingly produced in super labs[5] in Mexico. According to the Mexican authorities, 99 per cent of the methamphetamine produced in Mexico is for subsequent export to the USA.

Between 2001 and 2004, the amounts of methamphetamine seized by the US authorities along the common south-west border with Mexico increased from 1.2 mt to 2.3 mt[6], equivalent to 75 per cent of all reported US seizures in 2004, up from 41 per cent 2001. The increase followed successes in Canada and in the USA in tightening the control of precursor chemicals, leading to a decline in methamphetamine production within the USA. However, organized criminal groups in Mexico have partly filled this gap, notably in the mid-western states of the USA, where Mexican groups have taken over much of the methamphetamine business previously controlled by local independent traffickers. Mexican criminal groups have also introduced crystal methamphetamine into these regions.[7]

As previously mentioned, the Mexican authorities have taken decisive steps to reduce methamphetamine production and trafficking by drastically reducing the import of methamphetamine precursor chemicals.

The number of countries reporting seizures of methamphetamine increases

The number of countries outside the two main methamphetamine producing and trafficking regions (South-East Asia and North America) reporting seizures of methamphetamine increased from 15 in 2000, to 27 in 2004 and 34 in 2005, suggesting that methamphetamine trafficking is spreading in geographical terms. The European region reported a 4-fold increase in the number of methamphetamine seizures over the period 2000-2005, though the amounts seized in 2005 were lower than in 2004. The methamphetamine seizures reported from the Oceania region declined in 2004 and 2005. Demand data from Aus-

[3] UNODC, Annual Reports Questionnaire Data.

[4] National Police Agency, Oral Presentation by the Deputy Commissioner General, Hiroto Yoshimura, of the National Police Agency, to the 50th Session of the Commission on Narcotic Drugs, Vienna, 12-16 March 2007.

[5] A 'super lab' is defined by the US authorities as a clandestine laboratory which can produce more than 10 pounds (i.e. more than 5 kg) of methamphetamine over a production cycle (ONDPC, 2007 National Drug Control Strategy, Feb. 2007).

[6] ONDCP, Synthetic Drug Control Strategy, June 2006.

[7] National Drug Intelligence Centre, *National Drug Threat Assessment, 2007*, October 2006.

tralia also point to a stabilization of the market. Methamphetamine trafficking in Southern Africa continues to increase.

Amphetamine trafficking continues to be concentrated in Europe – but seizures are rising sharply in East and South-East Asia

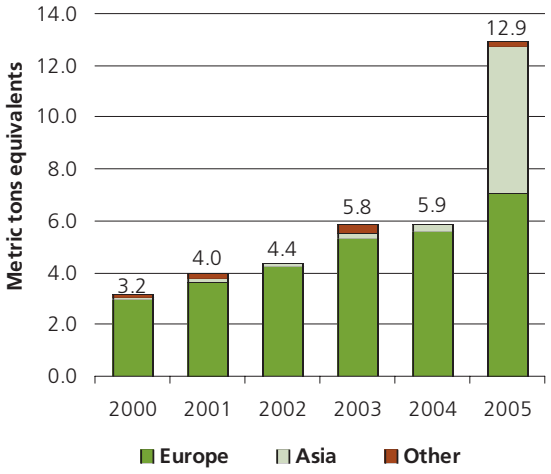
Amphetamine seizures increased in 2005 (from 5.8 mt in 2004 and 3.2 mt in 2000), to 12.9 mt. Most of this increase was due to a sharp rise in seizures in East and South-East Asia.

During the 2000-2005 period, some 80 per cent of global amphetamine seizures took place in Europe, mostly in West and Central Europe (68 per cent) and in South-East Europe (11 per cent). East and South-East Asia accounted for 15 per cent of global amphetamine seizures and the Near and Middle East for 2 per cent (excluding 'Captagon' seizures, which could also fall under the amphetamine category).

If data for 2005 were considered alone, the proportion of West and Central Europe falls to 45 per cent leaving 40 per cent of all amphetamine seizures as have been reported from countries in East and South-East Asia. While the latter region is known for methamphetamine production and trafficking, this large scale production and trafficking of amphetamine is more or less unprecedented. In 2005, the world's largest amphetamine seizures were reported from China (2.8 mt) and from Taiwan province of China (2.4 mt). Amphetamine was also seized in the Netherlands (2 mt), the UK (1.4 mt in 2004), Bulgaria (1.1 mt), Germany (0.7 mt) and Poland (0.5 mt). It remains to be seen whether these huge amphetamine seizures in East Asia reflect a one time event in 2005 or whether they indicate the beginning of a more fundamental trend toward ATS product diversification taking advantage of the availability of different kinds of precursor chemicals. Reports of seizures of 258 kg of semi-processed amphetamine in Taiwan province of China over the first nine months of 2006[8], would support this theory.

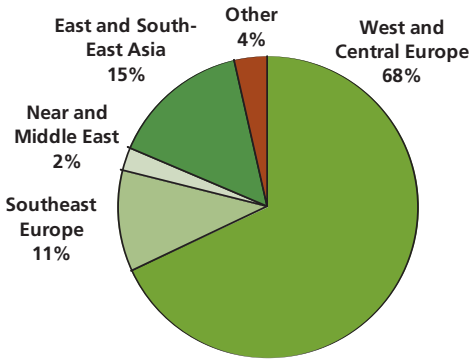
The proportion of West and Central Europe would fall further if the ATS tablet seizures of Saudi Arabia (111.5 million tablets reported by ICPO/INTERPOL) were included on the basis that such tablets typically contain amphetamine.[9]

Fig. 115: Global amphetamine seizures, 2000-2005



Source: UNODC, Annual Reports Questionnaire Data.

Fig. 116: Distribution of amphetamine seizures, 2000-2005 (6 metric tons per year)



Source: UNODC, Annual Reports Questionnaire Data / DELTA.

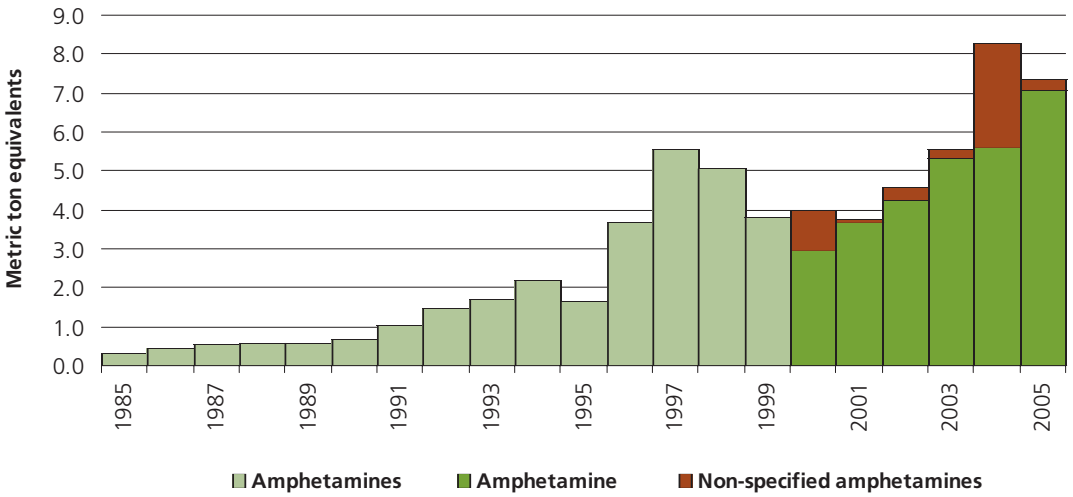
Assuming that such a tablet had an average amphetamine content of 30 mg[10], the reported seizures would be equivalent to an amount equivalent to some 3.3 mt, higher than the amphetamine seizures reported from China. 'Captagon' tablets are typically produced in South East Europe (Bulgaria and, according to the Bulgarian authorities, also in Turkey) and are then trafficked by various Middle East groups to Syria, Jordan and Saudi Arabia.

[8] U.S. Department of State, *International Narcotics Control Strategy Report 2007*, March 2007.

[9] While 'Captagon' tablets analyzed by UNODC in the early 1990s still contained fenethyline, 'Captagon' tablets in later years contained typically amphetamine and caffeine, but not fenethyline. However, a number of other substances were found in some of the tablets, including quinine and theophyline. The Interpol data suggest that out of the total of 111.5 million tablets seized in 2006, 36 million were 'Captagon' tablets and the rest were amphetamine tablets.

[10] This is UNODCs generally applied transformation ratio for all amphetamines, unless more precise information has been made available by member states.

Fig. 117: Amphetamine seizures in Europe, 1985-2005



* in kilogram equivalents, assuming a dose/unit to be equivalent to 30 milligrams

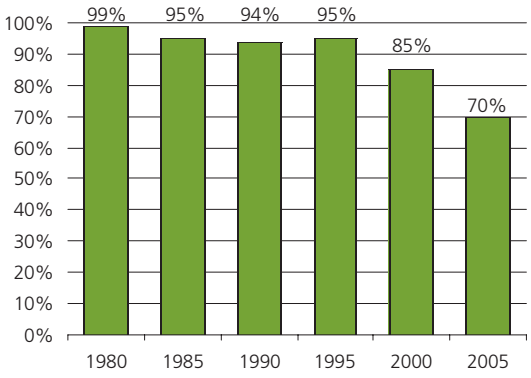
Source: UNODC, Annual Reports Questionnaire Data.

Because amphetamine production and trafficking has been traditionally concentrated in Europe, Europe's amphetamine seizures (with the exception of data for 2005) serve as a good proxy for global amphetamine seizures. Europe's amphetamine seizures increased between 1980 and 1997, before falling temporarily towards the end of the 1990s. Between 2000 and 2005, European amphetamine seizures picked up again and more than doubled. Overall trafficking of amphetamine in Europe (and, thus, indirectly of amphetamine trafficking at the global level) has increased over the last two decades, including over the 2000-2005 period.

If the 'non-identified amphetamines' are included in the analysis - in the case of Europe it can be assumed that the bulk of the substance registered under this heading were actually amphetamine - the overall increase over the last two decades as well as over the 2000-2005 period is even larger. However, such statistics also suggest that seizures of amphetamine are likely to have declined in 2005 as compared to 2004. This would be consistent with information on shortages of P-2-P, the main precursor for amphetamine production following the improvment in controls by the Chinese authorities. The limited availability of these precursor chemicals on the European market was reflected in rising prices and falling P-2-P seizures in 2005. P-2-P diverted from the Russian market[11] partly offset this and prevented any large-scale decline in European amphetamine production.

One remarkable trend within Europe has been the shift of production and trafficking in amphetamine from the old to the new EU member states, as well as to non-EU member states. Back in 1995, the EU-15 countries accounted for 95 per cent of all European amphetamine seizures, a share that declined to 85 per cent by the year 2000 and to 70 per cent by the year 2005.

Fig. 118: Proportion of amphetamine seizures in EU-15 countries among all European amphetamine seizures



* in kilogram equivalents, assuming a dose/unit to be equivalent to 30 milligrams

Source: UNODC, Annual Reports Questionnaire Data.

[11] Europol, Synthetic Drugs and Precursors, presentation given by the Europol Drug Unit at the Europe-Asia Conference on Synthetic Drugs and their Precursors, Paris, 6-7 March 2007.

Overall 'amphetamines' seizures remain concentrated in South-East Asia, North America and Europe

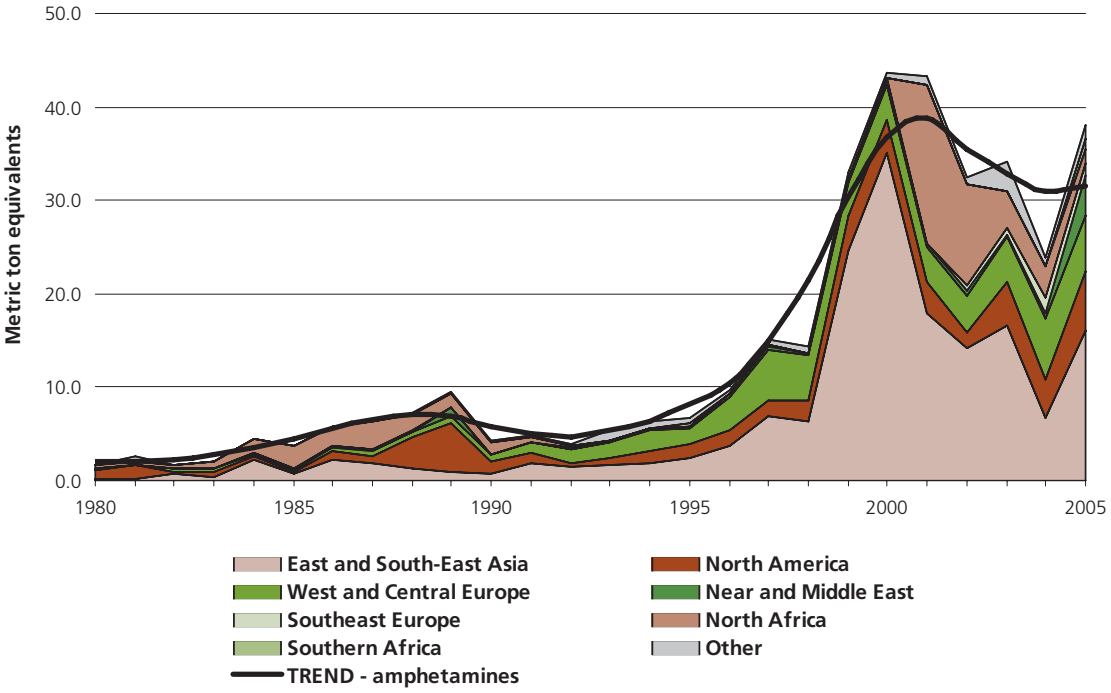
Because some countries are still having problems with the exact identification of the substances concerned, it is helpful to look at overall trends in sub-markets together, i.e. methamphetamine, amphetamine and non-identified amphetamines.

In this context, all available indicators, including seizure statistics, suggest that global trafficking in amphetamines increased strongly in the second half of the 1990s but remained relatively stable thereafter. Overall seizures fell over the 2000-2004 period, rose in 2005, but remain below the peak levels reported in 2000 and 2001.

South-East Asia continues to be the main market for such stimulants, accounting for 42 per cent of total seizures in 2005, followed by North America (17 %) and West and Central Europe (16 %). Other important regions include the Near and Middle East (11 %) and Africa (9 %). The proportion of seizures made in East and South-East Asia in 2005 was clearly higher than in 2004 (28 %), but remained below the average of the 2000-2005 period (49 %).

In comparison to the year 2000, amphetamines seizures declined in East and South-East Asia as well as in the Oceania region, South Asia, East Africa and in the Caribbean. Seizures increased in all other regions. When compared to 2004, amphetamines seizures declined in West and Central Europe, South-East Europe, North Africa, South-Asia and Central America, and rose in all other regions. The net result was an increase in global seizures in 2005 as compared to 2004, although global seizures remained some 13 per cent below the record levels of 2000.

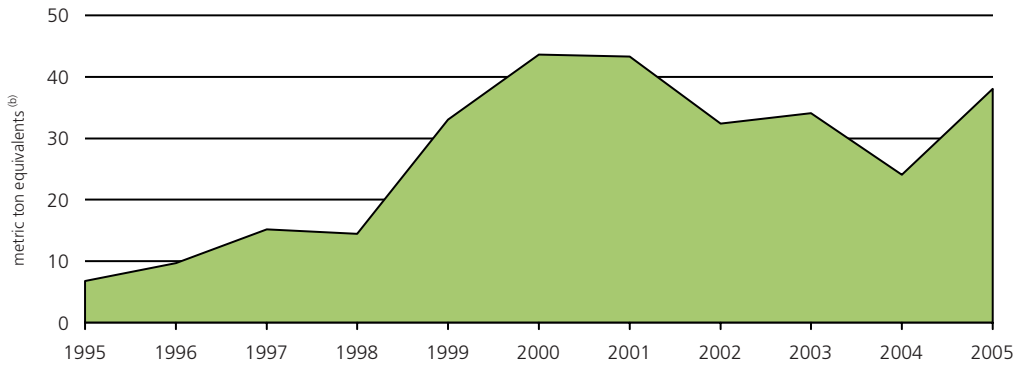
Fig. 119: Global seizures* of amphetamines – breakdown by region, 1980-2005



* in metric ton equivalents, assuming a dose/unit to be equivalent to 30 milligrams; 1 litre to be equivalent to 1 kilogram.

Source: UNODC, Annual Reports Questionnaire Data.

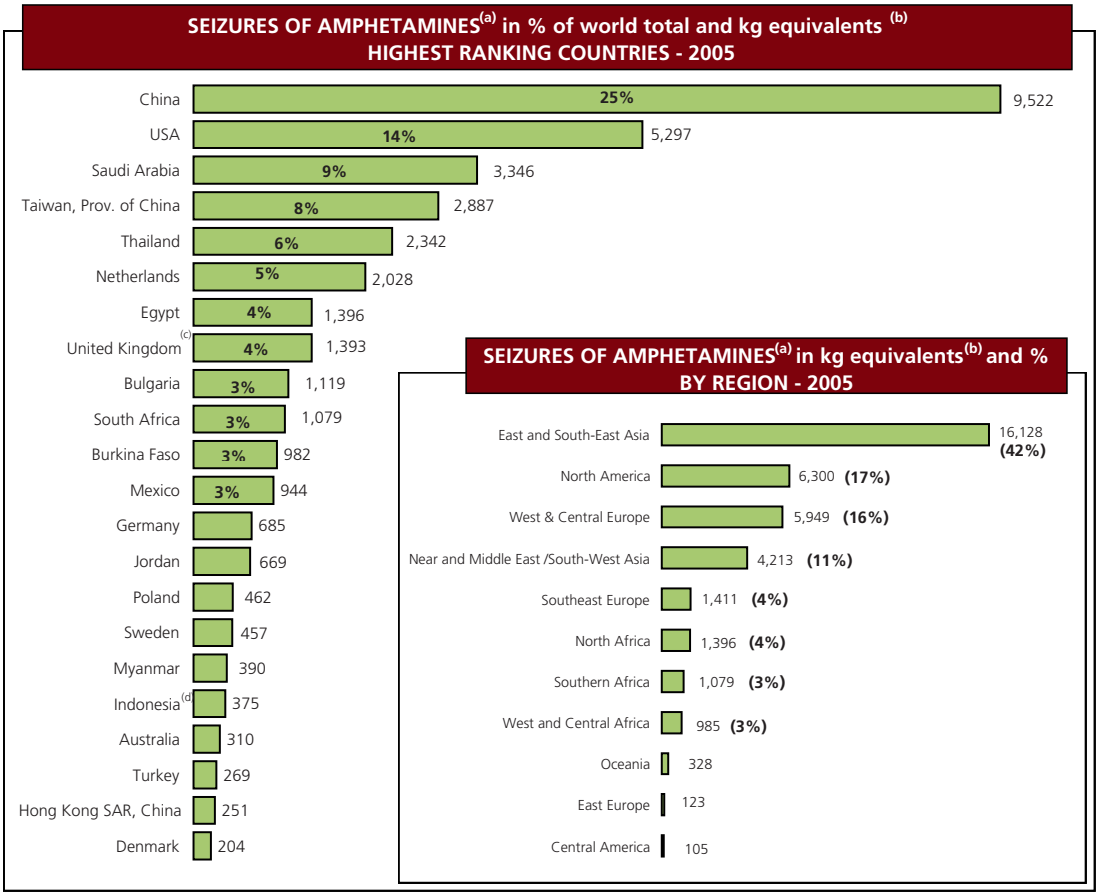
Fig. 120: Global seizures of amphetamines[a], 1995 - 2005



(a) amphetamine, metamphetamine and related stimulants.

(b) 1 unit is assumed to be equivalent to 30 mg

Year	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Metric ton Equivalents	7	10	15	14	33	44	43	32	34	24	38



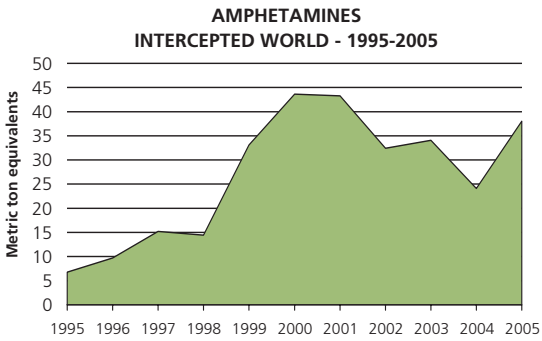
(a) amphetamine, methamphetamine and related stimulants

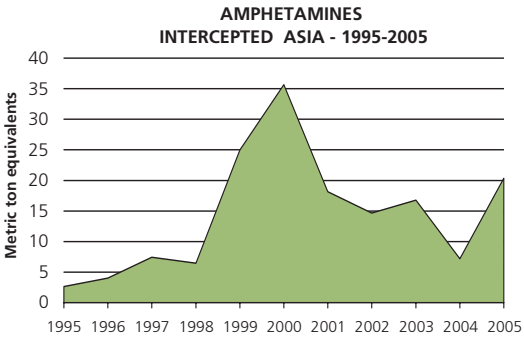
(b) 1 unit is assumed to be equal to 30 mg; 1 litre is assumed to be equal to 1 kg

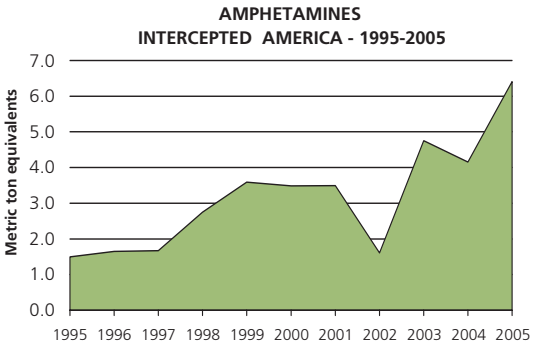
(c) data refer to 2004

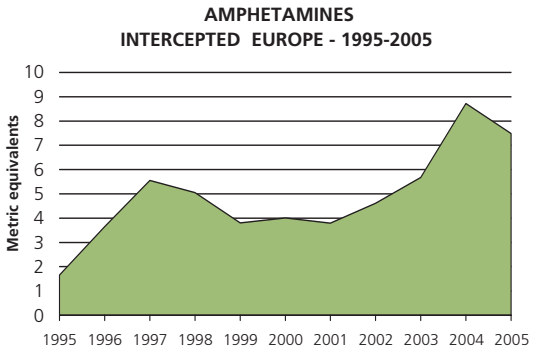
(d) total seizures reported by national as well as state & territory law enforcement agencies which may result in double counting.

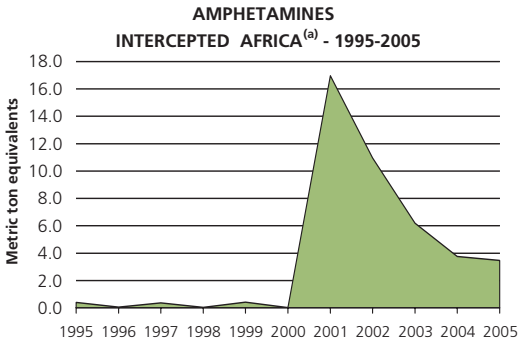
Fig. 121: Interception of amphetamines, 1995 - 2005

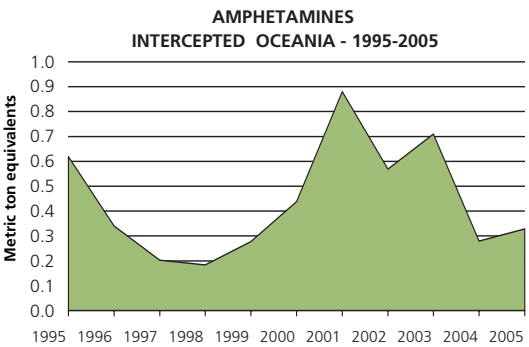






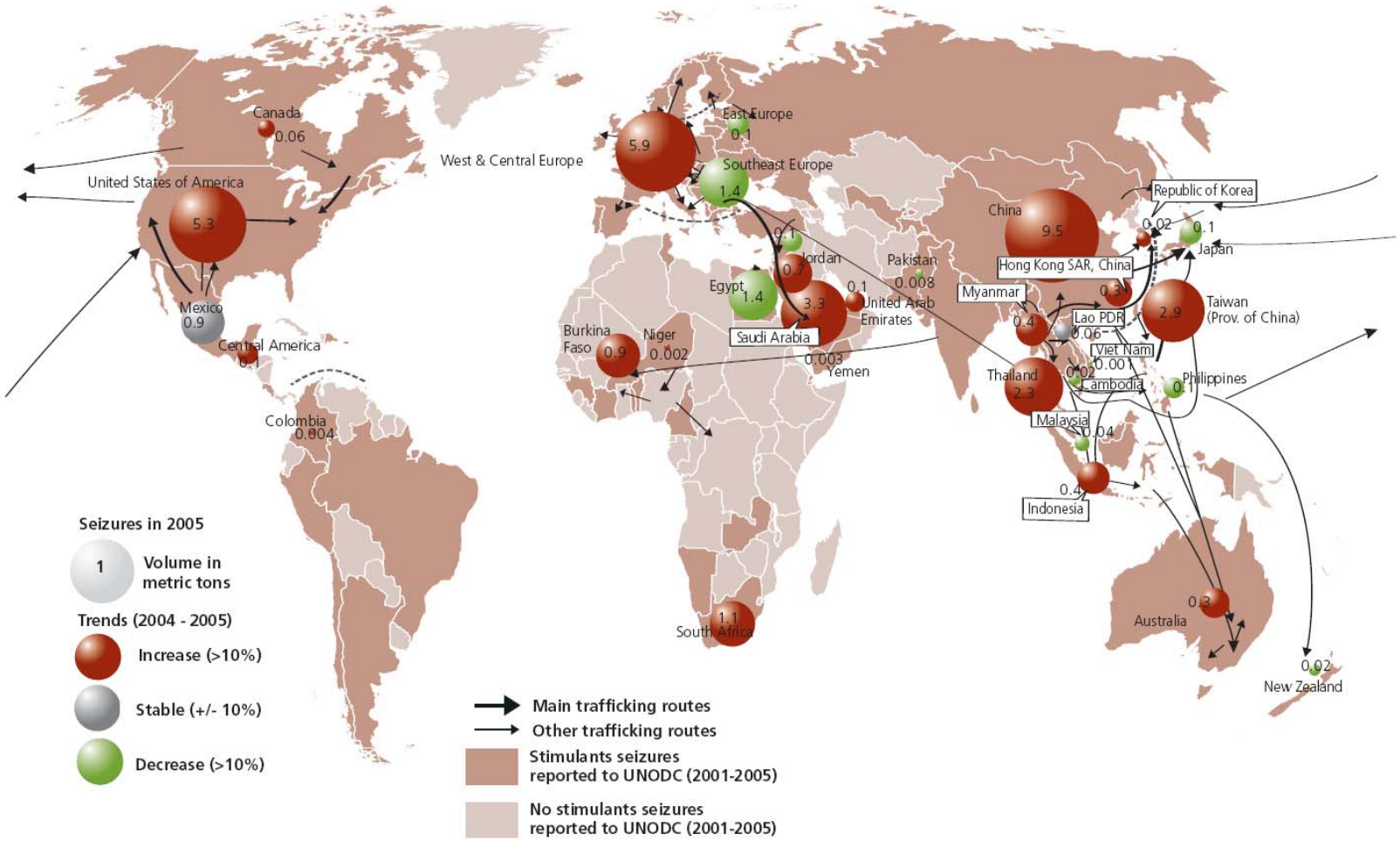






(a) Increase in 2001 due to huge seizures of Maxiton Forte in Egypt (reported in litres); conversion rate used: 1 litre = 1 kg

Map 20: Trafficking in amphetamines, 2005 (countries reporting seizures* of more than 1 kg)



* Seizures as reported (street purity); units converted into weight equivalents (30mg per unit)

Trafficking in Ecstasy

Ecstasy seizures drop in 2005 and the share of Europe in global ecstasy trafficking declines

After increasing over the last decade, reported ecstasy seizures, which declined 33 per cent in 2005, are now back to the levels reported at the beginning of the millennium.

The largest seizures over the 2000-2005 period have been reported from the countries of West and Central Europe (54 %), followed by North America (21 %), the Oceania region (15 %) and East and South-East Asia (6 %).

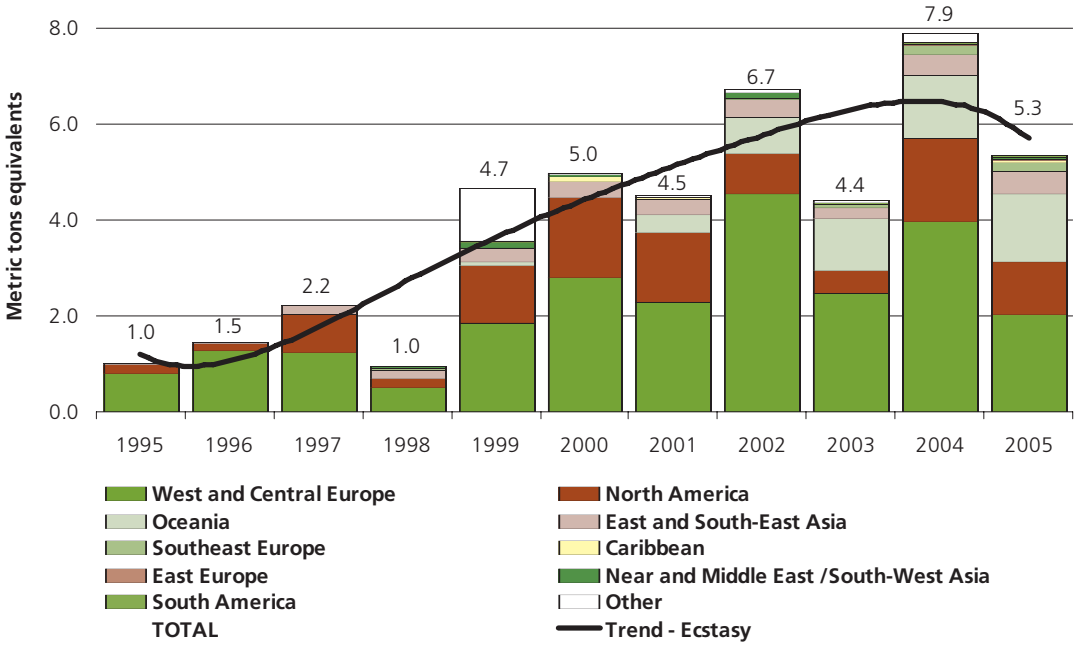
Although it has not affected the overall dominance of West and Central Europe in the ecstasy trade, the general trend has been towards an increase in ecstasy production, trafficking and abuse outside West and Central Europe. The share of West and Central Europe in global ecstasy seizures fell from 78 per cent in 1995, to 56 per cent in 2000 and 38 per cent in 2005. The next largest seizures in 2005 were registered by countries in the Oceania region (27 %), North America (20 %) and East and South-East Asia (9 %). For the second time, ecstasy seizures in the Oceania region exceeded those of North America.

While ecstasy trafficking decreased in West and Central Europe, it increased in East and South-East Europe. Nonetheless, ecstasy seizures for Europe as whole fell by 25 per cent over the 2000-2005 period. During the same period, even stronger declines of ecstasy seizures were reported from North America (minus 35 per cent), reflecting successful efforts to curtail the ecstasy trade and reduce consumption over the last few years. The strongest increases were registered by countries in the Oceania region and, to a lesser extent and from lower levels, by countries in South America and in East and South-East Asia.

Although trafficking in ecstasy is both inter- and intra-regional, the latter is gaining in importance with production shifting to new markets

Trafficking in ecstasy used to be intra-regional in Europe and inter-regional outside Europe, as Europe has been, and still is, where the main production for the illicit manufacture of MDMA is located. The main source countries identified for ecstasy production are still the Netherlands followed by Belgium. However, the importance of these and other European countries as source countries is declining. In parallel, ecstasy production outside Europe is increasing with the USA, Canada, Australia, China, Indonesia, Hong Kong SAR

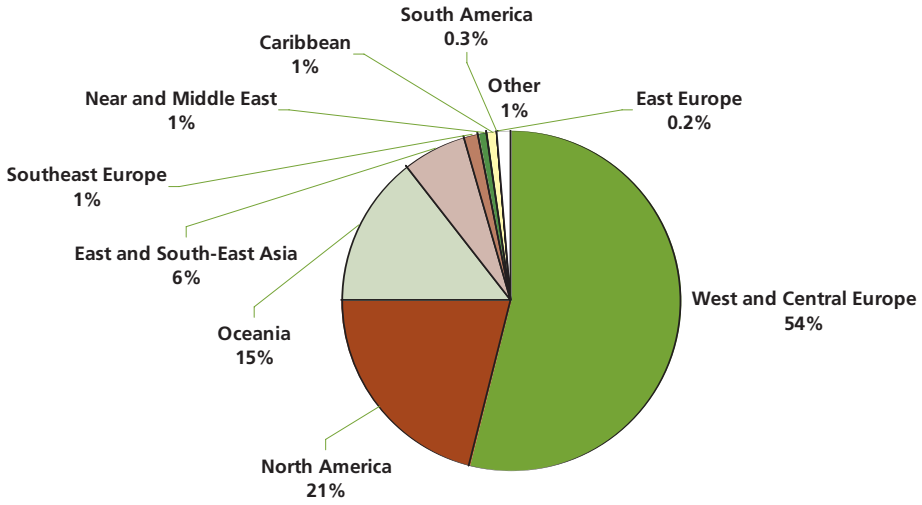
Fig. 122: Global ecstasy seizures, 1995-2005



* Note: a pill of ecstasy was assumed to contain on average 100 mg of MDMA.

Source: UNODC, Annual Reports Questionnaire Data / DELTA.

Fig. 123: Regional breakdown of ecstasy seizures, 2000-2005 (average annual seizures: 5.6 metric tons)



* Note: a pill of ecstasy was assumed to contain on average 100 mg of MDMA.

Source: UNODC, Annual Reports Questionnaire Data / DELTA.

of China, South-Africa, New Zealand, Mexico, Argentina, Egypt, India and Malaysia having been identified as ecstasy producing countries outside Europe.

The production of ecstasy in Europe is becoming ever more sophisticated, characterized by increased professionalism and efficiency in production. Trends such as the participation of more specialized staff, companies and facilitators[12], have been identified. The subsequent distribution of ecstasy end products however, may be more ad hoc. It is thought to be undertaken by a large number of rather small drug trafficking groups of various nationalities. They typically purchase the ecstasy in the Netherlands, Belgium or other producing countries (the Baltic countries, Poland, Balkan region etc.) and then traffic the drugs to their respective home countries.[13]

Trafficking of ecstasy from Europe to North America and some other regions was controlled for many years by criminal groups of Israeli origin, sometimes with links to Russia, other European countries and the USA. Israeli citizens have been part of international ecstasy trafficking networks in source, transit and distribution countries, and were found in locations in France, Spain, Germany, Denmark, Holland and Belgium, serving as brokers and transporters of ecstasy to the USA.[14] These trafficking groups operated mainly outside Israel, though in some instances, they were also involved in trafficking ecstasy from the Netherlands and Belgium to Israel. However, the importance of these trafficking rings was significantly reduced following the successful disruption of several of them over the last few years. This is now also reflected in US seizure statistics, as Israeli groups used to smuggle MDMA via east coast cities (such as New York, Newark or Miami) into the USA. Ecstasy seizures along the east coast have declined, while they clearly increased along the Canadian border. Such ecstasy is mainly distributed by Asian criminal groups (often ethnic Chinese or Vietnamese persons holding Canadian passports), who increasingly produce the ecstasy in Canada and smuggle the necessary chemicals into Canada from various Asian countries (typically China).[15] The Canadian authorities reported that as of 2005 already 85 per cent of the ecstasy seized was

[12] Europol, Synthetic Drugs and Precursors, presentation given by the Europol Drug Unit to the Europe-Asia Conference, Paris, 6-7 March 2007.

[13] Germany, for instance, reported that organized crime groups of non-German citizens account for 65 per cent of all organized crime activities in the narcotics trade; however, when it comes to synthetic drugs, notably ecstasy, local German groups dominate the scene (See Bundeskriminalamt, *Bundeslagebild Organisierte Kriminalität 2005,* Wiesbaden, June 2006). Similarly, Austria reports a strong concentration of foreign groups in drug trafficking, but when it come to ecstasy, the situation is different. Most of it is bought by domestic Austrian groups in the Netherlands and then trafficked into the country (see Bundesministerium für Inneres, Bundeskriminalamt, *Suchtmittelkriminalität Jahresbericht 2006,* Wien 2007).

[14] US State Department, *International Narcotics Control Strategy Report,* March 2006.

[15] National Drug Intelligence Centre, *2007 National Drug Threat Assessment,* October 2006.

domestically produced and only 15 per cent came from Europe. At the same time, the Republic of Korea reported that a third of the ecstasy found on its market originated from Canada and two thirds from China.[16]

Criminal groups from the Dominican Republic have been involved in shipping ecstasy in significant quantities from Europe, often via Spain and the Caribbean, to the USA.[17] Some groups were also organized by European expatriates who lived in the Dominican Republican and hired European couriers to buy the drugs in the Netherlands and then traffic them to final destinations in the USA.[18] Nonetheless, the overall importance of these groups from the Dominican Republic appears to have declined following the dismantling of several such networks.

As the North American market has become more risky and competition from Asian groups more fierce, some Israeli criminal groups seem to have shifted their activities to smuggling ecstasy to the Oceania region.[19] Criminal British and Dutch groups have also been involved in these activities for many years. The main 'embarkation' countries in 2004/05 for shipments of ecstasy to Australia were mostly located in West and Central Europe (Italy, Poland, Belgium and the Netherlands), South-East Asia (Indonesia and Malaysia) and North America (Canada).[20] The importance of all of these transhipments may decline as domestic ecstasy production within the Oceania region increases.

The largest ecstasy seizures in 2005 were reported by Australia (27 %), followed by the USA (14 %), the Netherlands (12 %), the UK[21] (9 %), Canada (6 %), Belgium (5 %) and China (4 %).

[16] UNODC, Annual Reports Questionnaire.

[17] UNODC, *World Drug Report 2006,* June 2006.

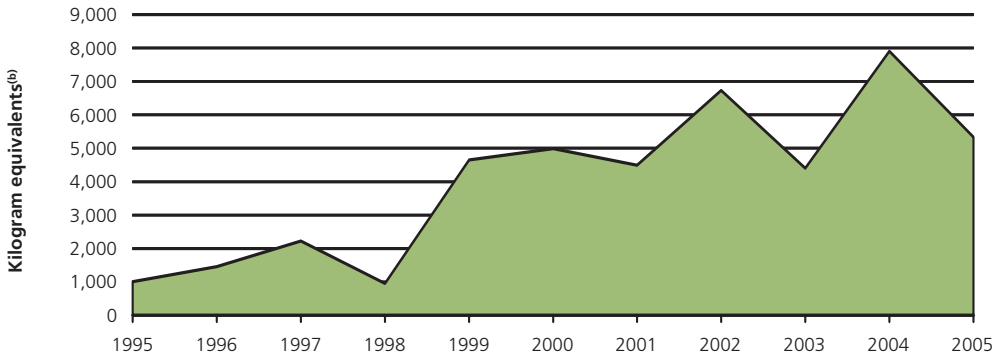
[18] US Drug Enforcement Agency (DEA), Press Release, 'Federal Jury Convicts Dominican Republic-Based Ecstasy Trafficker of Conspiracies to Distribute and Import Millions of Dollars of Ecstasy Pills', June 5, 2006.

[19] In April 2007, one such ecstasy trafficking ring, organized by an Israeli group, was dismantled in Australia (see ABC, 'AFP says $37m ecstasy haul will reduce supply', April 23, 2007; Jerusalem Post, 'Israeli suspected in Ecstasy smuggling', April 23, 2007).

[20] Australian Crime Commission, *Illicit Drug Data Report 2004/05,* Canberra 2006.

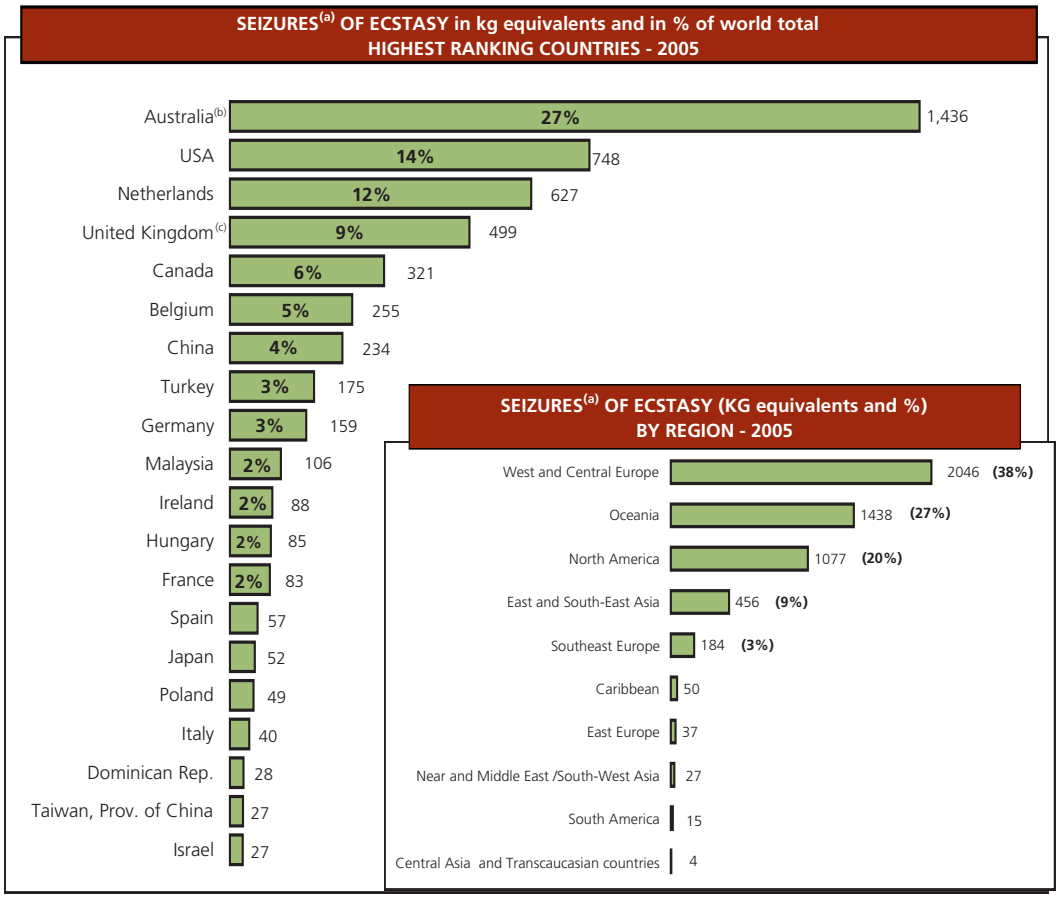
[21] Data for the UK refer to 2004; 2004 data are used as proxy for 2005 seizures.

Fig. 124: Global seizures of ecstasy[a], 1995 - 2005



[a] Separate reporting of 'Ecstasy' seizures only started with the new ARQ. Before, Ecstasy seizures were included under the category of 'hallucinogens'. Trend data shown above refer to the broader category for 1995-1999 and for Ecstasy for 2000-2005. Over the 2000-2005 period, Ecstasy accounted for 93% of the broader category.

[b] 1 unit is assumed to be equivalent to 100mg of MDMA.

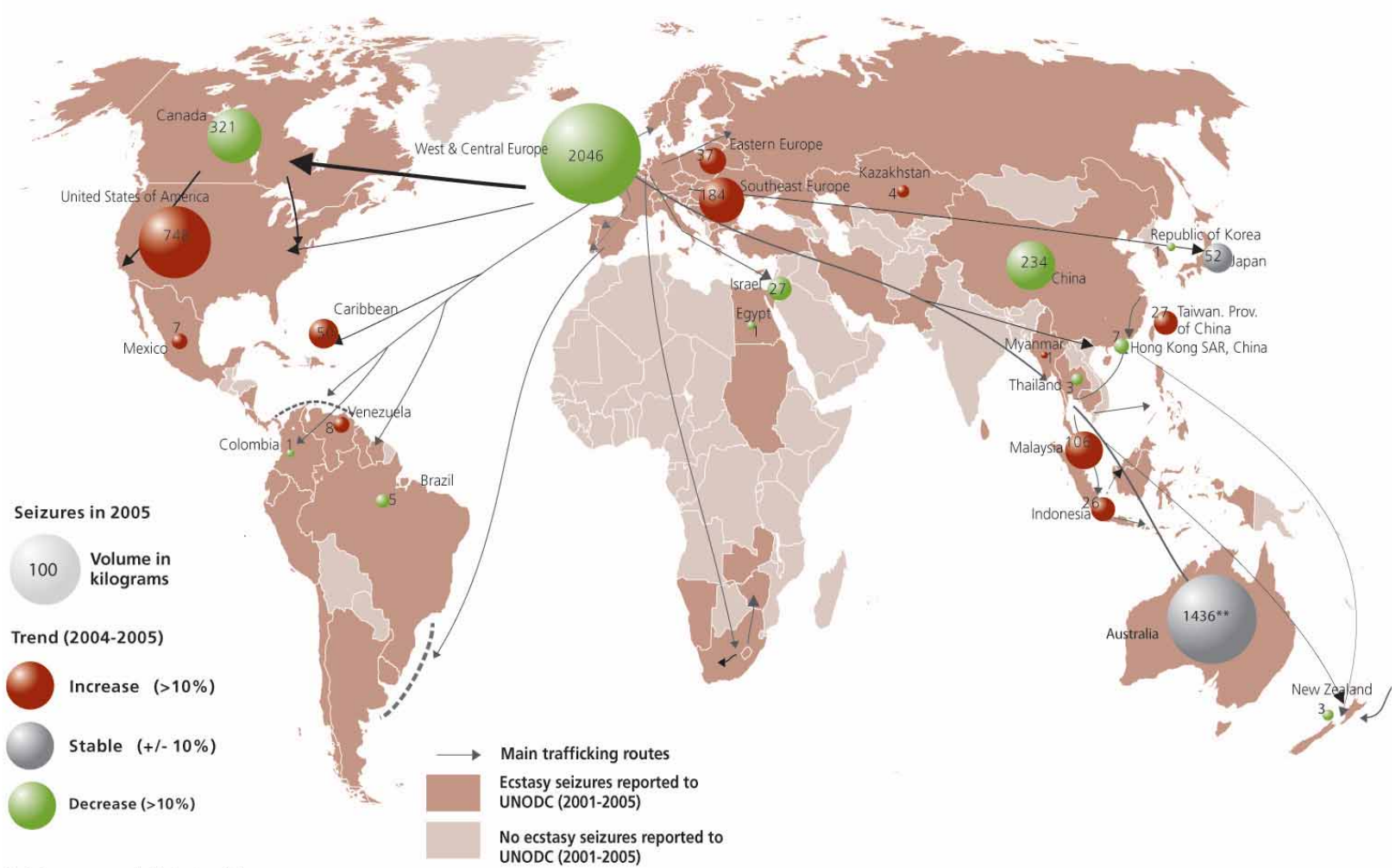


[a] Seizures as reported (street purity); units converted into weight equivalents (100mg / unit)

[b] total seizures reported by national as well as state & territory law enforcement agencies which may result in double counting.

[c] data refer to 2004.

Map 21: Trafficking in ecstasy, 2005 (countries reporting seizures* of more than 1 kg)



* Seizures as reported (street purity)

** sum of seizures reported by national, State & Territory law enforcement agencies.

1.5.4 Abuse

Amphetamines and related synthetic stimulants

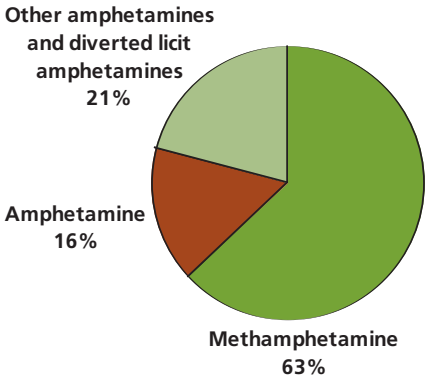
Methamphetamine consumption dominates ATS abuse at the global level

For 2005, UNODC estimates suggest that close to 25 million people in the world, or an equivalent of 0.6 per cent of the population aged 15-64, consume amphetamines. This is a higher number than those consuming cocaine or heroin. The total estimates have not changed much in comparison to 2004 or the beginning of the new millennium.

In terms of the actual substances used, only a tentative breakdown is possible as most countries do not differentiate in detail whether drug users take methamphetamine, amphetamine or other stimulants. However, Member States have repeatedly reported distinct regional characteristics to UNODC, which help establish reasonable orders of magnitude at the regional level. As an example, the information available suggests that amphetamines users in East and South-East Asia consume primarily methamphetamine while users in Europe take primarily amphetamine (with a few exceptions, notably the Czech Republic where methamphetamine is the preferred substance). Household surveys show that about half of the stimulant users in North America use methamphetamine. 'Captagon' use, which is widespread in the Near East, basically reflects the use of amphetamine (often in combination with caffeine). In contrast, users of amphetamines in South Africa and in North Africa, seem to lean more towards methamphetamine. In addition, information available indicates that in most parts of South America, Central America, the Caribbean, in western, central and eastern Africa as well as in some parts of southern Africa and Asia, the amphetamines markets consist primarily of various diverted pharmaceutical preparations.

UNODC statistics take all of this information into consideration and suggest that there are between 15 and 16 million methamphetamine users worldwide, i.e. a similar number as heroin or cocaine users at the global level. The number of amphetamine users is estimated to be lower, at around 4 million people. A further 5 million people are estimated to consume various diverted pharmaceutical preparations or other illegal stimulants, such as methcathinone. Again, it is important to recall that these are only tentative estimates based on information made available to UNODC by Member States. Furthermore, one should be aware that the actual numbers for the individual substances could be slightly higher as poly-drug use is known to be common, and could well extend to ATS consumption as well.[1]

Fig. 125: Users of 'amphetamines' – tentative breakdown by substance (N = 24.8 million)



South-East Asia continues to be the world's largest amphetamines market, followed by North America and Europe

Some 14 million people, or 55 per cent of the world's amphetamines users are estimated to live in Asia.[2] While

[1] For statistical reasons, this applies in particular to 'amphetamine' and to the category of 'other amphetamines and diverted amphetamines', but less for methamphetamine.

[2] The figure for Asia is slightly lower as compared to the estimate published a year earlier (15.2 million). The difference was mainly due to results from the national household survey from Indonesia, conducted in 2005 (See National Narcotics Board Indonesia, *National Survey of Illicit Drug Use and Trafficking among Household Groups in Indonesia, 2005*). The estimate, showing an annual prevalence rate of 0.2 per cent of methamphetamine use among the general population aged 10-60, turned out to be lower than previous estimates (see UNODC, *Patterns and Trends of Amphetamine-type Stimulants (ATS)*, Bangkok 2006).

most are methamphetamine users in East and South-East Asia, this sub-region alone accounts for 97 per cent of all amphetamines use in Asia. The total number of amphetamines users in North America is estimated at around 3.8 million people[3] and in Europe at 2.8 million people, whereby North America would account for 15 per cent and Europe for 11 per cent of the total global figure.

The number of amphetamines users in Africa is estimated at 2.1 million and in South America (including the Caribbean and Central America) at 1.9 million people, each region accounting for some 8 per cent. About 0.6 million people use amphetamines in Oceania, which is 3 per cent of the world total.

For years, Thailand used to have the world's highest methamphetamine prevalence figures, but this changed following the market crack-down in 2003. Based on survey results in 2005, the highest prevalence rates worldwide are now found in the Philippines. This prompted the authorities in 2005 and 2006 to take severe measures against domestic methamphetamine production and intensify prevention and treatment efforts. Although falling, the second highest prevalence rates have been reported from Australia.

Fig. 126: Breakdown of amphetamines users by region (N = 24.8 million)

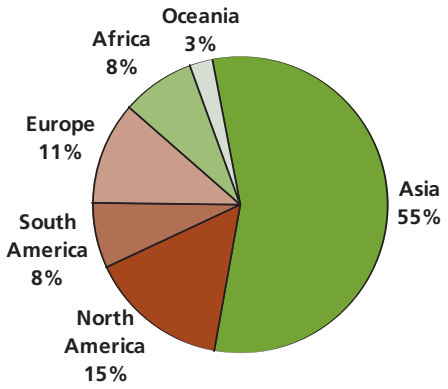


Table 14: Annual prevalence of amphetamines use, 2005 or latest year available

	Number of users	In per cent of population 15-64 years
EUROPE	2,750,000	0.5
West and Central Europe	2,220,000	0.7
South-East Europe	180,000	0.2
Eastern Europe	350,000	0.2
AMERICAS	5,710,000	1.0
North America	3,790,000	1.3
South America	1,920,000	0.7
ASIA	13,700,000	0.5
OCEANIA	620,000	2.9
AFRICA	2,100,000	0.4
GLOBAL	**24,890,000**	**0.6**

Above global average **Around global average** **Below global average**

Sources: UNODC, Annual Reports Questionnaire data, Government reports, reports of regional bodies and UNODC estimates.

[3] This figure of 3.8 million is higher than the figure quoted in last year's *World Drug Report* (3.2 million). The difference is entirely due to methodological improvements. In fact, amphetamines use, including methamphetamine use, is showing a downward trend in the USA and thus in North America as a whole. A review of the accuracy of results obtained via the US household surveys found that questions of people's methamphetamine use under the heading of 'prescription drugs' (as had been done to date) leads to under-reporting. Many people, even when taking methamphetamine, do not associate their methamphetamine consumption with the use of a prescription drug, as the question dated back to the time when methamphetamine was still a prescription drug in the USA. However, over the years it ceased to be a diverted prescription drug and is now only produced in clandestine laboratories, the reason why the question has become misleading. In order to improve the accuracy of the results, people who had not replied positively to the use of methamphetamine as a prescription drug, were asked for a second time, and outside the context of prescription drugs, whether they had taken methamphetamine. Furthermore, some typical street names were added to the definition in the question: *"Methamphetamine, also known as crank, ice, crystal meth, speed, glass, and many other names, is a stimulant that usually comes in crystal or powder forms. It can be smoked, "snorted," swallowed or injected. Have you ever, even once, used methamphetamine?"* This second question (which had not existed in the past) raised the annual prevalence rate of methamphetamine use among those aged12 and above quite substantially, from 0.5 per cent (before the second question was added in 2005) to 0.8 per cent (after the second question was added in 2005). Hence, the total stimulants use increased from 1.1 per cent to 1.4 per cent in 2005. (See Substance Abuse and Mental Health Services Administration (SAMHSA). Results from the *2005 National Survey on Drug Use and Health: National Findings* (Office of Applied Studies, NSDUH Series H-30, DHHS Publication No. SMA 06-4194). Rockville, MD, Sept. 2006; http://www.oas.samhsa.gov/nsduh/2k5nsduh/AppB.htm#TabB-6). UNODC now uses these higher figures for methamphetamine and stimulants use for the USA, which consequently also raised the figures for North America as a whole.

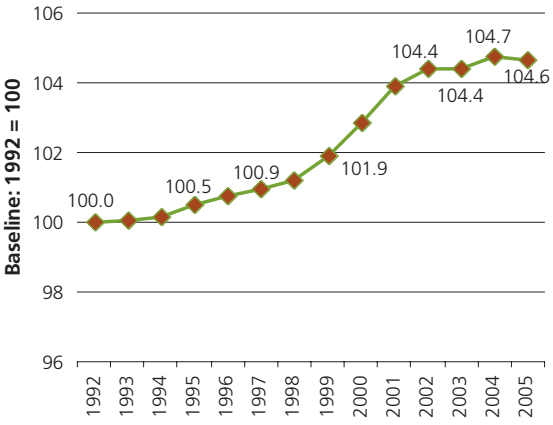
At the sub-regional level, the highest annual prevalence rates of amphetamines use are reported by the countries in the Oceania region (2.9 per cent), followed by North America (1.3 per cent), East and South-East Asia (0.9 per cent) and West and Central Europe (0.7 per cent). The average annual prevalence rate in Africa is estimated at 0.4 per cent. The highest prevalence rates in the Oceania region are reported by Australia, in Europe by the UK, Denmark and Estonia, in North America by the USA, in Central America by El Salvador, in South America by Brazil, and in Africa, at lower levels, by Nigeria (and some other West African countries), South Africa and Egypt.

Following increases in the 1990s, amphetamines use is now stabilizing at the global level…

Both the estimates of the total number of amphetamines users, as well as trend data provided by experts, suggest that amphetamines use has started to stabilize in recent years, following a strong increase in the 1990s.

Most of the increase in the 1990s was due to rapidly rising use of amphetamines in Asia, notably in East and South-East Asia. Increases in Europe and North America also contributed to the global rise of the 1990s, albeit to a lesser extent. The stabilization over the last few years is therefore a global phenomenon.

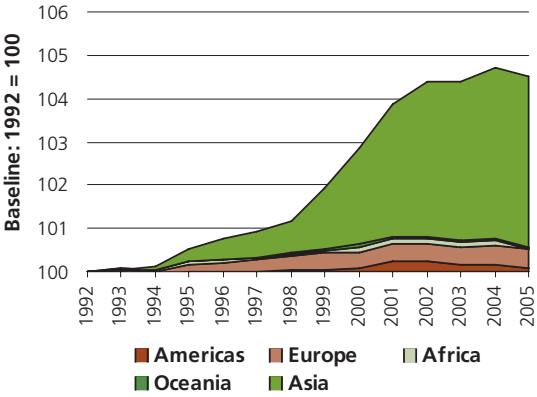
Fig. 127: Amphetamines use trends* as perceived by experts: 1992-2005



* Note: Trends as reported by national experts in response to UNODC's Annual Reports Questionnaire. Points allocated for trend data: 'strong increase' 2; 'some increase': 1; stable: 0; 'some decline' -1; 'strong decline' -2. Reported drug use trends were weighted by the proportion of amphetamines users in a country expressed as a percentage of global amphetamine use. If all countries had reported 'some increase', the global trend line would have increased by one point each year and would have reached 113 by 2005.

Sources: UNODC, Annual Reports Questionnaire Data, UNODC Field Offices, UNODC's Drug Abuse Information Network for Asia and the Pacific (DAINAP), UNODC, Global Assessment Programme on Drug Abuse (GAP), Government reports, EMCDDA, CICAD, HONLEA reports and local studies.

Fig. 128: Amphetamines use trends* as perceived by experts: regional contribution to global change: 1992-2005



Sources: UNODC, Annual Reports Questionnaire Data, UNODC Field Offices, UNODC's Drug Abuse Information Network for Asia and the Pacific (DAINAP), UNODC, Global Assessment Programme on Drug Abuse (GAP), Government reports, EMCDDA, CICAD, HONLEA reports and local studies.

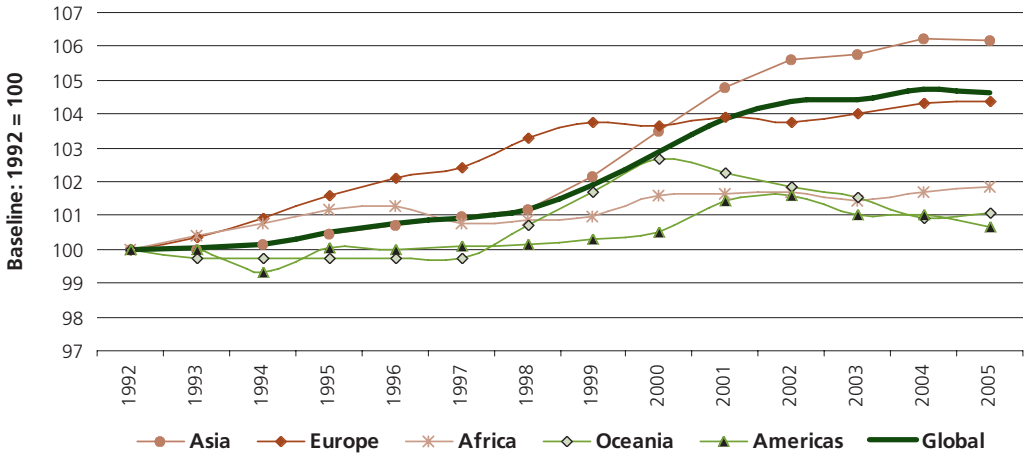
When analyzing changes in the individual regions during the period 1992-2005, trend data show that growth rates were highest in the Asia region and below average in all other regions. However, following strong increases in the 1990s, growth in the Asia region has come to a halt and the Oceania region and the Americas even experienced some declines in recent years. In Europe, while the amphetamines use grew above average in the 1990s, over the last years it has followed the global average and in fact always remained slightly below it. However, in Africa amphetamines use has grown in recent years, albeit from relatively low levels, and the overall increases during the 1992-2005 period have been clearly below the global average.

Amphetamines use is falling in North America

The most significant shift has been the downward trend of amphetamines use in North America, reflecting reports from the USA. This downward trend follows many years of continued spread of methamphetamine abuse in the USA, from the Pacific towards the rest of the country.

The downward trend among US students started around 1997 and became more pronounced after 2002. While the annual prevalence of amphetamines use (covering both methamphetamine and amphetamine use) among high school students declined over the 1997-2006 period by a third, the decline between 2002 and 2006 amounted to almost 30 per cent. Lower levels of use went hand in hand with reports of lower availability and a higher risk perception linked to the use of such substances.

Fig. 129: Amphetamines use trends* as perceived by experts – changes in regions, 1992-2005 (baseline: 1992=100)



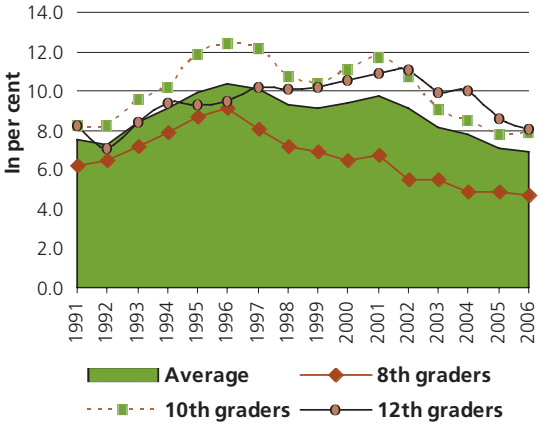
Sources: UNODC, Annual Reports Questionnaire Data, UNODC Field Offices, UNODC's Drug Abuse Information Network for Asia and the Pacific (DAINAP), UNODC, Global Assessment Programme on Drug Abuse (GAP), Government reports, EMCDDA, CICAD, HONLEA reports and local studies.

The decline in methamphetamine consumption was even more pronounced among high school students in the USA, and fell by more than 37 per cent over the 2002-2006 period, or by 60 per cent between 1999 and 2006. Similar declines were also reported by high school students in Ontario, Canada (down 56 per cent between 1999 and 2005), clearly showing that raising risk awareness in combination with policies to reduce supply (mainly due to improved precursor controls) have had a positive impact.

The downward trend among the general population in the USA, as reflected in household survey data, began after 2002. Between 2002 and 2005 amphetamines use fell by more than 20 per cent, from an annual prevalence rate of 1.4 per cent in 2002 to 1.1 per cent among those aged 12 and above in 2005.

Meanwhile, workplace testing results had indicated an upward trend until 2004[4], but a clear downward trend has been observed here as well since mid-2005. This was observed notably in the Pacific and in central western states where abuse levels were normally the highest. The overall proportion of those testing positive for amphetamines use among the US workforce declined by almost 20 per cent between 2004 and 2006, from 0.52 per cent in 2004 to 0.48 per cent in 2005 and 0.42 per cent in 2006.

Fig. 130: Annual prevalence of amphetamines (methamphetamine/amphetamine) use among high-school students in the USA

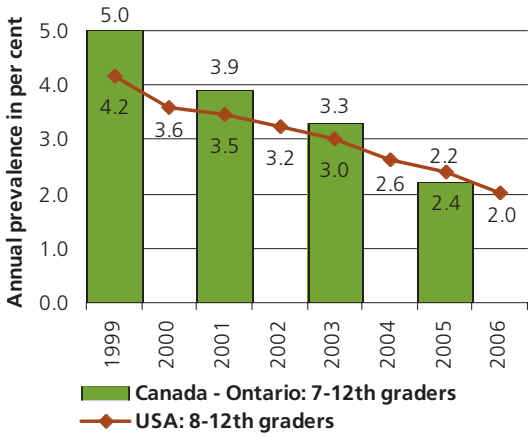


Source: NIDA, *Monitoring the Future, Overview of Key Findings in 2006,* Bethesda Maryland, May 2007.

Nevertheless, the positive trends reported from the USA and Canada have been partly offset by reports of rising methamphetamine abuse in Mexico. This seems to reflect growing methamphetamine production there and, although the bulk of the methamphetamine pro-

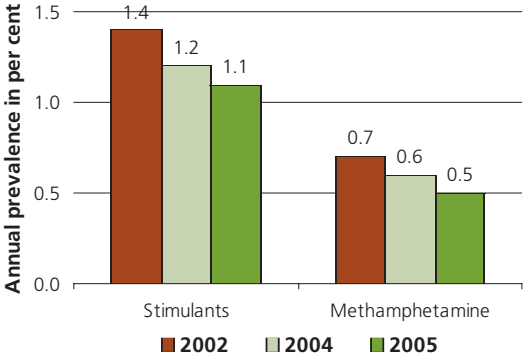
[4] The following reasons may have been responsible for why trends according to household survey data and drug testing data at the workplace differed for few years:
- there has been a clear expansion of drug testing across the USA which helped to improve the national coverage;
- the quality and reliability of drug tests has improved;
- a growing demand for labour, related to a strong growth of the US economy, enabled many people (including drug users) to join the workforce who in previous years may have remained unemployed.
- While this has improved the accuracy and reliability of current results, it may have made direct comparisons more difficult.

Fig. 131: Annual prevalence of methamphetamine use among high school students in the USA and in Ontario (Canada), 1999-2006



Sources: CAMH, *Drug Use among Ontario Students, 1997-2005,* Toronto 2005 and NIDA, *Monitoring the Future, Overview of Key Findings in 2006,* Bethesda Maryland, May 2007.

Fig. 132: Annual prevalence of stimulants/ methamphetamine use in the USA among the population age 12 and above



Source: SAMHSA, *2005 National Survey on Drug Use and Health,* 2006 and previous years

duced in Mexico is destined for the US market, the small proportion remaining in the country has been sufficient to increase local availability, thereby fuelling domestic demand.

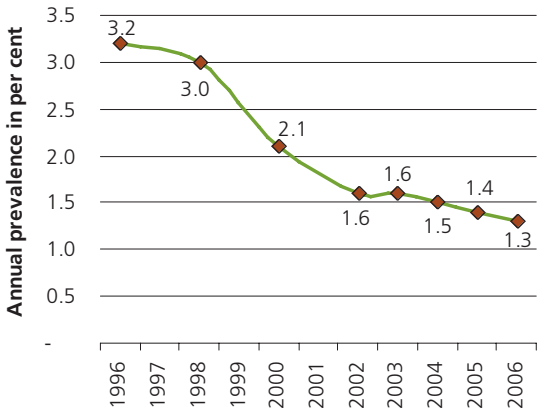
… and has stabilized in Europe

Following many years of significant increases, amphetamine use in Europe has now stabilized. In 2005, 19 European countries reported a stabilization of amphetamine use, 6 reported an increase and 6 reported a decrease in amphetamine use. Increases in amphetamine use are now concentrated in South-Eastern Europe, while most of Western Europe shows stable or falling levels of amphetamine use.

The most significant downward trend, starting in the mid-1990s, was reported from Europe's largest amphetamine market, the United Kingdom. The annual prevalence of amphetamine use in England and Wales fell from 3.2 per cent in 1996 to 1.4 per cent in 2005 and 1.3 per cent in 2006, a decline equivalent to about 60 per cent for the population aged 16-59. The increased prevention efforts as well as measures to limit supply seem to have been behind this success. According to a study by the EMCDDA, this was also made possible by the UK allocating the third largest expenditures per capita and percentage of GDP to fighting drug abuse among the countries of the European Union (after the Netherlands and Sweden)[5]. While this significant availability of funds to fight the drug problem showed positive results, some of the progress made in reducing amphetamines use in the UK was offset by rising levels of cocaine use. Nonetheless, the overall decline in amphetamine use over the last decade turned out to be stronger than the increase in cocaine.

Significant successes have been also achieved in Sweden, Europe's first ATS market which developed between the 1940s and the 1960s.[6] Life-time prevalence rates among

Fig. 133: England and Wales: annual prevalence of amphetamine use among the general population, aged 16-59



Source: Home Office, *Drug Misuse Declared: Findings from the 2005/06 British Crime Survey,* London, Oct. 2006.

[5] This includes expenditure on both the supply and the demand side. Drug related expenditure amounted to 68 in the UK or 0.35 per cent of GDP, more than twice the EU average (0.15 per cent). Higher levels have been only reported by the Netherlands (139 per capita or 0.66 per cent of GDP) and Sweden (107 per capita or 0.47 per cent of GDP. (See EMCDDA, *Public Expenditure on Drugs in the European Union, 2000-2004).*

[6] UNODC, *Sweden's successful Drug Policy: A Review of the Evidence,* (February 2007).

military recruits declined by more than 50 per cent between 2000 and 2005 and Sweden's amphetamine prevalence rates among the general population, which used to be some of the highest, are now among the lowest in Europe.

A trend towards stabilization is reported from Asia

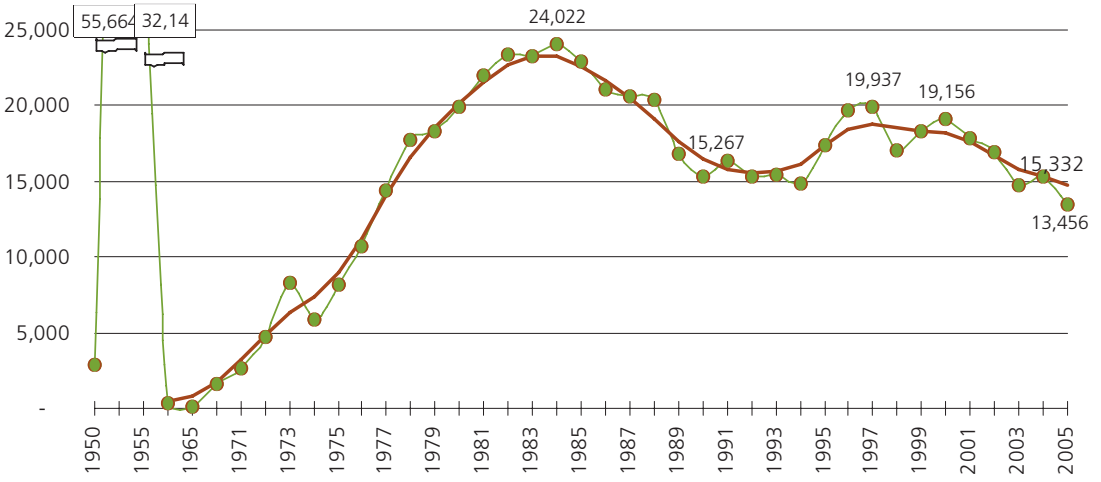
In 2005, the number of Asian countries reporting an increase in amphetamines use declined to 15, while the number of countries reporting stable or declining amphetamines use increased to 16. A year earlier, 20 Asian countries had reported an increase and only 12 countries saw a stable or declining trend. Once the reported trends are weighted by the amphetamines using population, the net result shows a (marginal) decline. This stabilization followed years of uninterrupted growth over the last decade in the Asia region.

Increases in amphetamines use are mainly reported by countries of western and southern Asia. In contrast, countries of East and South-East Asia, which account for the bulk of all amphetamines use in Asia, report a stabilization or even a marginal decline.[7]

Following strong increases in the 1970s, early 1980s and late 1990s, all data for Japan, Asia's most lucrative methamphetamine market, suggest that methamphetamine abuse stabilized or even declined slightly in recent years. The life-time prevalence rate of methamphetamine was reported to have amounted to 0.4 per cent of the population aged 15 and above in 2003, but fell to 0.3 per cent by 2005.

In 2005, a continued decline in methamphetamine abuse (methamphetamine pills or 'yaba') was reported by Thailand. This followed a forceful intervention by the Thai authorities in the market in 2003, which resulted in a decline in methamphetamine abuse, but unfortunately also in a significant number of casualties. The 2001 household survey showed that Thailand had a prevalence rate of 2.4 per cent of the population aged 12-65 and thus the world's most serious methamphetamine problem at the time, despite also having reported the world's largest ATS seizures for many years. In 2003, a subsequent household survey found far lower prevalence rates (0.2 per cent)[8]. However, these data may have been influenced by police operations, resulting in a likely underestimate as respondents were influenced by

Fig. 134: Reported violations against the Stimulants Law in Japan, 1950-2005



	1950	1954	1955	1960	1965	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Arrests	2,917	55,664	32,140	299	152	1,618	2,634	4,709	8,301	5,919	8,218	10,678	14,447	17,740	18,297	19,921	22,024	23,365	23,301	24,022	22,980	21,052	20,643	20,399	16,866	15,267	16,330	15,311	15,495	14,896	17,364	19,666	19,937	17,084	18,285	19,156	17,912	16,964	14,715	15,296	13,456
Trend				458	794	1,715	3,223	4,837	6,335	7,354	8,955	11,225	14,077	16,590	18,520	20,168	21,582	22,743	23,298	23,227	22,559	21,647	20,520	19,170	17,656	16,434	15,834	15,527	15,621	16,154	17,405	18,398	18,773	18,502	18,354	18,212	17,664	16,733	15,731	15,332	14,691

Sources: Ministry of Health and Social Welfare, National Police Agency of Japan and UNODC, Annual Reports Questionnaire Data.

[7] However, there are some differences in sources and in reporting to UNODC and this issue will be examined further in the future.

[8] UNODC (Regional Centre for East Asia and the Pacific), *Patterns and Trends of Amphetamine-type Stimulants (ATS) and Other Drugs of Abuse in East Asia and the Pacific 2005,* Bangkok 2006.

[9] This could be seen by a massive decline in reported life-time prevalence rates of methamphetamine use, from 7.8 per cent in 2001 to 2.4 per cent in 2003, which is not likely to reflect the reality as many people were afraid to admit that they were methamphetamine users at the time.

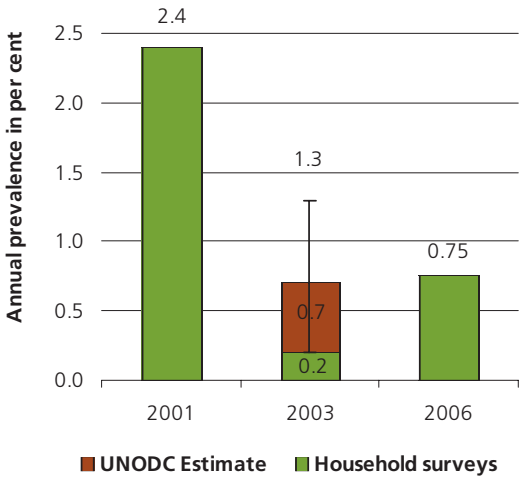
the then ongoing 'war on drugs'.[9] Taking all available information into account, UNODC estimated that the actual values were probably closer to 0.7 per cent,[10] which would still represent a significantly lower rate than what was reported in 2001. The upper limit of the UNODC estimate for 2003 was around 1.3 per cent (based on rapid assessment findings of changes in drug abuse in the first few months of the 'war on drugs'). A new household survey conducted in 2006 found an annual prevalence of 0.75 per cent, which appears more realistic.

There is no doubt that the methamphetamine situation in Thailand is far better today than it was at the peak of the methamphetamine epidemic in 2001. Whether the situation will continue to improve or not is less certain. Seizures of methamphetamine pills ('yaba') point to an ongoing reduction of trafficking, which could indirectly lead to an ongoing reduction of abuse. However, seizures of crystal methamphetamine are rising, albeit from low levels. The information derived from the demand for methamphetamine-related treatment is even more complex. In 2003, following the authorities' intervention on the methamphetamine market, there was a massive increase in demand for treatment which helped eliminate a large number of potential consumers from the market. The methamphetamine treatment demand then dropped to below average levels in 2004, as was to be expected, but increased again in 2005 before stabilizing in 2006. In the meantime, there is no other Asian country that devotes as many resources as Thailand does to the treatment of methamphetamine dependent persons.

Simultaneously, reports suggest that increased trafficking via the Lao PDR and Cambodia may have started to partly offset the declines in direct trafficking of methamphetamine from Myanmar into Thailand. Both the Lao PDR and Cambodia are already reporting rising levels of methamphetamine abuse as a consequence of increasing trafficking activities through their territories. Increases have also been reported from Vietnam.

In the Philippines, the latest national household surveys conducted between September 2004 and January 2005, of 12,000 people between ages of 10 and 44, are still being reviewed by the authorities and their results have yet to be officially released. However, preliminary results have been made available[11] to UNODC and would indicate that the Philippines could be facing an annual prevalence rate of methamphetamine use of around 6 per cent of the population age 15-64.[12] These estimates suggest that the Philippines has currently the world's highest methamphetamine prevalence rate. Given the likely extent of the problem, as highlighted in the *World Drug Report 2006,* the Philippine authorities have intensified their fight against methamphetamine production, trafficking and abuse. For 2005, the Philippine authorities have reported methamphetamine abuse levels as stable.

Fig. 135: Thailand: annual prevalence of methamphetamine abuse, 2001-2006



Sources: UNODC, Annual Reports Questionnaire Data; UNODC, *Patterns and Trends of Amphetamine-type Stimulants (ATS) and Other Drug of Abuse in East Asia and the Pacific 2005,* June 2006 and UNODC, Drug Abuse Information Network for Asia and the Pacific (DAINAP).

A stable trend was also reported by Malaysia, Singapore and China. China appears as one of the world's largest methamphetamine markets, despite the methamphetamine prevalence rates of China being lower than in several of the other South-East Asian countries. The number of registered ATS users exceeded 50,000 in 2005 (6.7 per cent of all registered drug users in 2005)[13], but this number is likely to constitute only a fraction of the total number of ATS users in that country. Although China has not undertaken any national drug-related household survey to date, it has an elaborate system of registering drug users which helps identify abuse patterns. As an example, the system revealed that ATS abuse differs quite substantially across China, with the highest percentage of registered drug abusers reported from the provinces of Heilongjian (80 per cent), Jilin (62 per cent) and Liaoning (30 per cent), i.e. provinces

[10] UNODC, World Drug Report 2006, June 2006.

[11] UNODC, *Patterns and Trends of Amphetamine-Type stimulants (ATS) and Other Drugs of Abuse in East Asia and the Pacific 2005.*

[12] UNODC, *World Drug Report 2006,* June 2006, Vol. II.

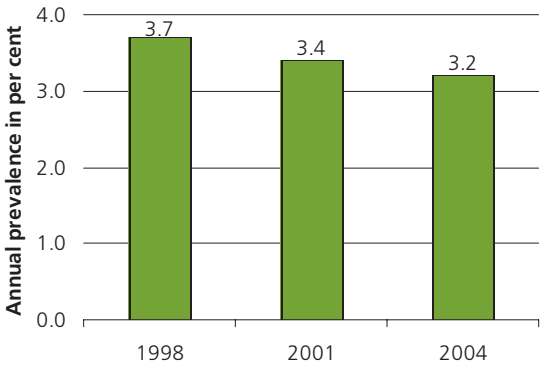
of north-eastern China, close to the Democratic Republic of Korea. The proportion of ATS in north-eastern China accounted for 52 per cent of registered drug users in 2005 and thereby proportionally exceeds the levels of opiate users. Other provinces of importance for ATS abuse are Hunan province in south-eastern China (8 per cent), located next to Guandong province (where the largest numbers of clandestine laboratories were found in recent years) as well as the provinces close to Shanghai along the East Chinese sea, Jiangsu province (7 per cent) and Zhejiang province (5 per cent).[14] The latter province borders Fujian province, another location of clandestine methamphetamine manufacture in China. However, in 2005, in contrast to previous years which had been characterized by rapidly growing ATS abuse, the Chinese authorities reported a stabilization of amphetamines use.

Authorities of Indonesia reported some decline of methamphetamine abuse to UNODC in their replies to the Annual Reports Questionnaire. This was in line with the results of the first national survey[15] conducted in Indonesia in 2005, which revealed a methamphetamine prevalence rate of 0.2 per cent among the population aged 15-64, which was lower than previous estimates had suggested.

Ongoing stabilization/decline in the Oceania region

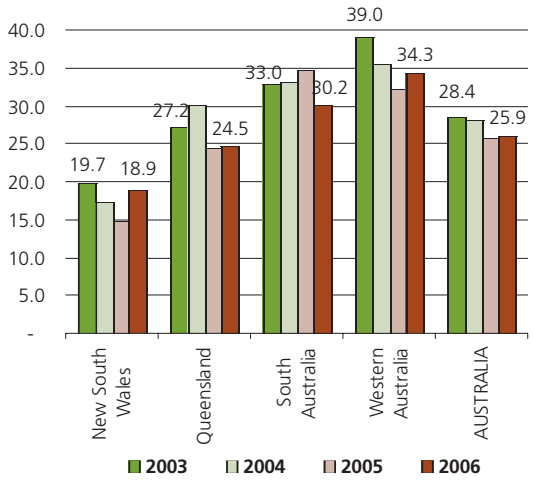
In Australia, household surveys have shown a gradual decline of methamphetamine use from an annual prevalence rate of 3.7 per cent of the population age 14 and above in 1998, to 3.4 per cent in 2001[16] and 3.2 per cent in 2004. Data collected through Australia's DUMA (Drug Use Monitoring in Australia) system, where arrestees in selected sites across the country are regularly tested (urine-analysis) for drug consumption within 48 hours after having entered custody, suggest that the trend towards a stabilization/moderate decline of methamphetamine use also continued in subsequent years. The proportion of the arrestees testing positive for methamphetamine declined slightly from 28.4 per cent in 2003 and 28.1 per cent in 2004 to 25.9 per cent in 2006. The decline has been most pronounced in Queensland (which traditionally has been the location of most dismantled methamphetamine laboratories), followed by sites in Western Australia and Southern

Fig. 136: Australia: annual prevalence of amphetamines use among the population aged 14 and above



Source: Australian Institute for Health and Welfare (AIHW), 2004 *National Drug Strategy - Household Survey 2004,* Canberra 2005.

Fig. 137: Australia: Methamphetamine - drug use testing among arrestees in selected sites*, 2003-06



* New South Wales: Bankstown and Parramatta (both Sydney)
Queensland: Southport and Brisbane
South Australia: Elizabeth and Adelaide
Western Australia: Perth
Australia: unweighted average of results from all sites

Source: Australian Institute of Criminology (AIC), Drug Use Monitoring in Australia (DUMA)

[13] Zhao Wanpeng (Deputy Director of International Cooperation Division, Narcotics Control Bureau, Ministry of Public Security) 'Measures Implemented in China for the prevention of Illicit Production of Synthetic Drugs and their Precursors', presentation to the Conference on Cooperation between Europe and Asia in the field of Synthetic Drugs and their Precursors, Paris 6-7 March 2007.

[14] National Surveillance Centre on Drug Abuse, National Institute on Drug Dependence, Peking University, 2005 Annual Report on Drug Abuse in China, Beijing 2006.

[15] National Narcotics Control Board, *National Survey of Illicit Drug Use and Trafficking among Household Groups in Indonesia, 2005,* Jakarta 2007.

[16] It must be noted though that a direct comparison of the 1998 and the 2001 household survey data in Australia could be potentially misleading as the underlying methodology for the surveys changed quite substantially during this period.

Australia. While the overall methamphetamine abuse appears to have stabilized, some data point to an increase in the use of 'crystal ice' as well as an increase in injecting methamphetamine.[17]

The stabilization of methamphetamine abuse in Australia, the largest country in the region, meant that the situation also stabilized de facto for the Oceania region as a whole. Nonetheless, individual countries showed opposing trends. For example New Zealand reported a continued rise in methamphetamine abuse in 2005, albeit from lower levels.

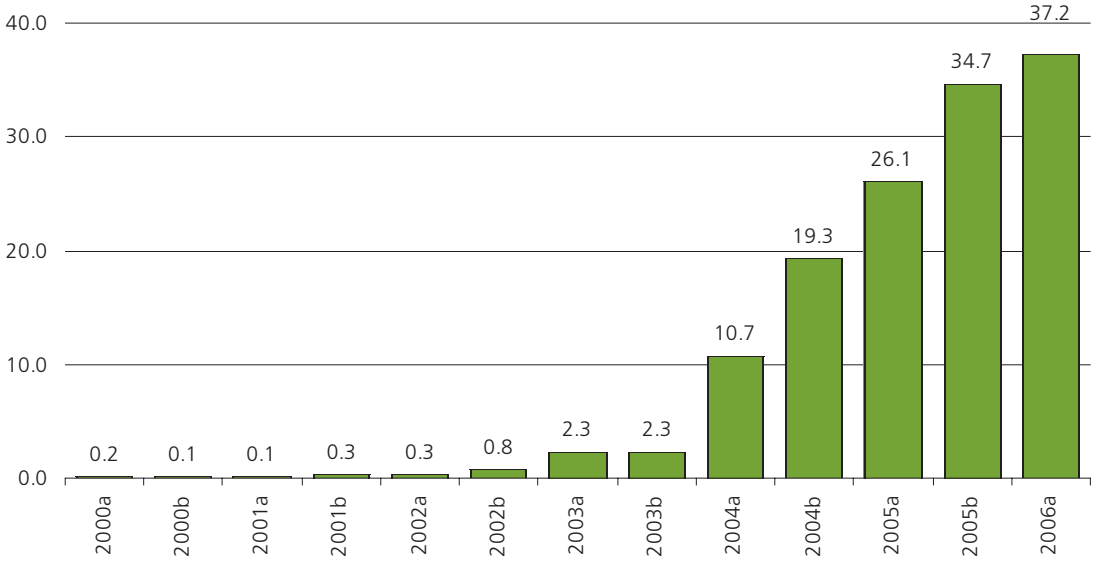
Rising levels of abuse in southern Africa …

Although amphetamines use in Africa remained stable, abuse of methamphetamine is rapidly increasing in South Africa. In Cape Town, methamphetamine accounted for less than 1 per cent of all substance related treatment demand by the end of 2002, but this has risen since and over the first two quarters of 2006, the proportion amounted to 37 per cent. In other parts of the country, while abuse remains far lower, small increases could still be noted. For all the locations covered by SACENDU (Cape Town, Gauteng, Port Elisabeth, Durban, Mpulanga, and East London), the proportion of methamphetamine in total treatment demand reached 13.5 per cent over the first two quarters of 2006, an increase from less than 1 per cent in 2002.

… and from South America

Rising levels have also been reported from several countries of South America. Although 5 countries reported rising levels, and another 5 countries saw consumption levels stable, not a single country reported a decline in South America (including the Caribbean and Central America). Such rising levels of ATS use in South America are in line with reports of rising levels of legal ATS consumption over the last few years, which has facilitated diversion. The defined daily doses per 1000 inhabitants for legally produced Schedule-IV stimulants in the Americas amounted to more than 10 over the 2003-2005 period, up from levels around 7 over the 2000-2002 period, or rates between 1 and 2 currently in Europe or Asia.[18]

Fig. 138: Cape Town (South Africa): proportion of methamphetamine as primary substance of abuse in treatment, 2000-2006

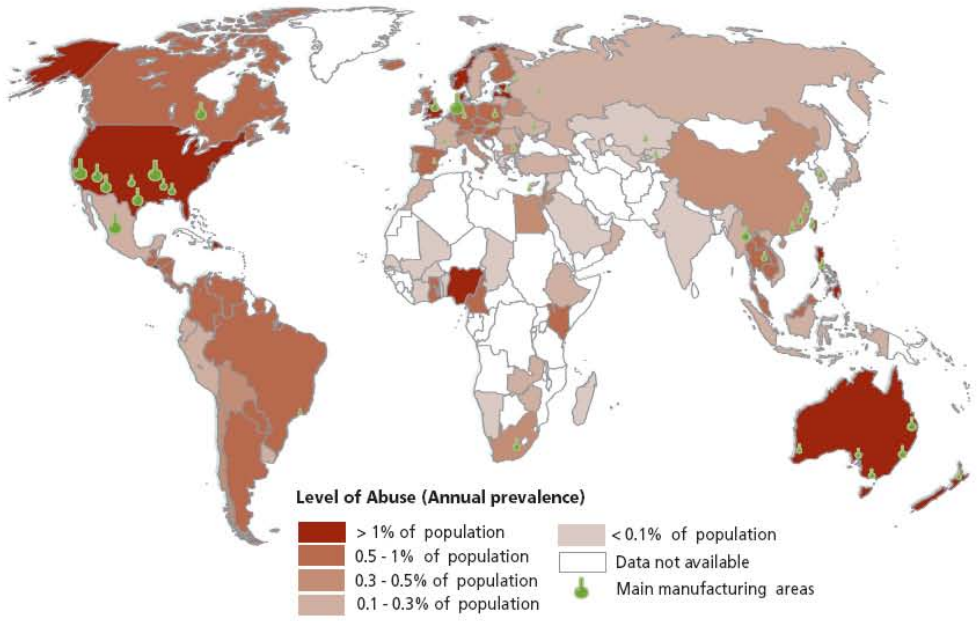


Source: SACENDU

[17] National Alcohol and Drugs Research Centre, University of New South Wales - presentation to UNODC, 'Australian Drug Monitoring Systems: Overview of IDRS and EDRS', May 2007.

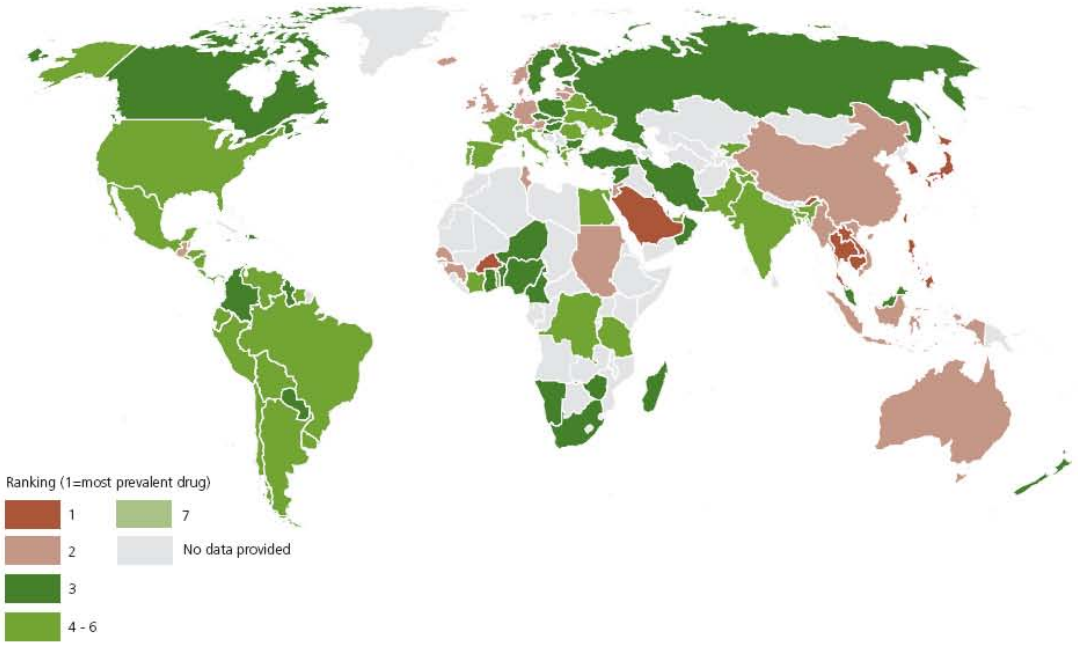
[18] INCB, *2006 Psychotropic Substances,* New York 2007.

Map 22: Use of amphetamines in 2005/2006 (or latest year available)



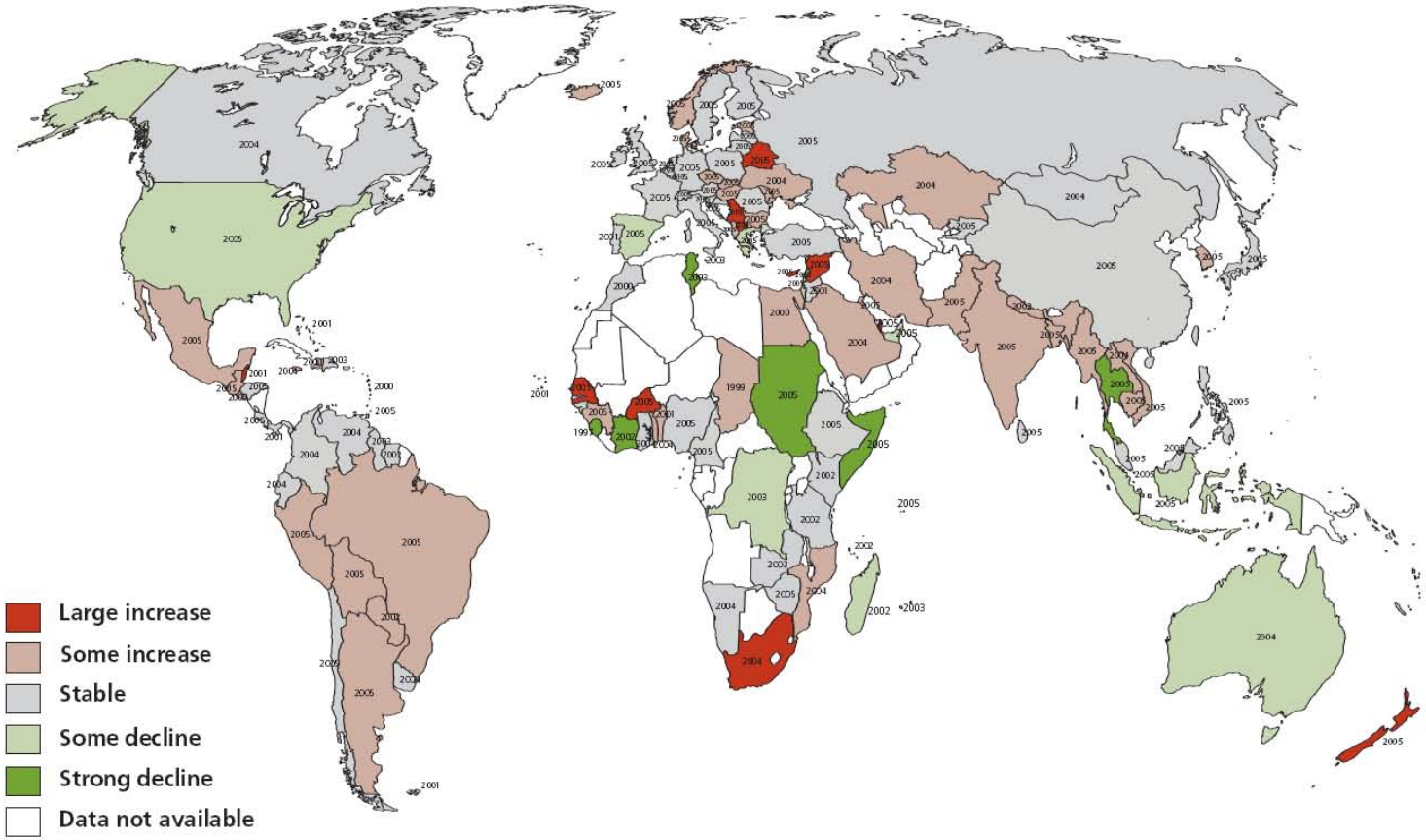
Sources: UNODC Annual Reports Questionnaires data/DELTA; Government Reports, US Department of State; European Monitoring Centre for Drugs and Drug Addiction (EMCDDA); Drug Abuse Information Network for Asia and the Pacific (DAINAP); UNODC Global Assessment Programme on Drug Abuse (GAP); Inter-American Drug Abuse Control Commission (CICAD).

Map 23: Ranking of amphetamine-type stimulants in order of prevalence in 2005 (or latest year available)



Sources: UNODC Annual Reports Questionnaires data, National Household Surveys on Drug Abuse, UNODC Rapid Assessement Studies, Council of Europe, ESPAD.

Map 24: Changes in the use of "amphetamines" (methamphetamines, amphetamine and related substances), 2005 (or latest year available)



Sources: UNODC Annual Reports Questionnaires data, UNODC (Regional Centre Bangkok) Epidemiology Trends in Drug Trends in Asia (Findings of the Asian Multicity Epidemiology Workgroup, National Household Surveys submitted to UNODC, United States Department of State (Bureau for International Narcotics and Law Enforcement Affairs) International Narcotics Control Strategy Report; Bundeskriminalamt (BKA) and other Law Enforcement Reports, UNODC Global Assessment Programme on Drug Abuse (GAP).

Ecstasy

Ecstasy continues to be concentrated in Western Europe and North America

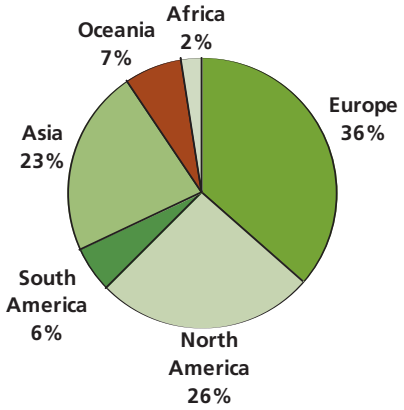
Global ecstasy use is estimated to affect some 9 million people or 0.2 per cent of the population aged 15-64. There are more than 3 million ecstasy users in Europe, accounting for some 36 per cent of ecstasy users worldwide. About 90 per cent of them are located in West and Central Europe. The annual prevalence rate of ecstasy use is estimated at 0.9 per cent of the population aged 15-64 in West and Central Europe, exceeding the levels reported from North America (0.8 per cent). The lower levels of ecstasy use in North America reflect a decline in ecstasy use there over the last few years. While drug use trends of Western Europe are largely stable, ecstasy use in several East and South-East European countries continues to grow.

The prevalence rates are still higher in the Oceania region (3 per cent) and the ecstasy use in the Oceania region is reported to be continuing to increase. The ecstasy prevalence in Asia is still low (0.1 per cent), but notably East and South-East Asia have emerged as significant ecstasy markets over the last few years. In addition, some countries in South America have reported rising levels of ecstasy use.

Global ecstasy consumption remains stable or declines slightly …

Following years of massive increases in the 1990s, data suggest that ecstasy consumption has stabilized at the global level over the last few years, or perhaps even marginally declined. This stabilization or slight decline is largely due to the significant decline reported from countries in North America.

Fig. 139: Global distribution of ecstasy use in 2005 (total: 8.6 million people)



Sources: Annual Reports Questionnaire data, Government reports, reports of regional bodies and UNODC estimates.

… reflecting a significant decline in North America …

Following strong increases in the late 1990s, both school surveys and household surveys in Ontario, Canada, as well as in the USA, showed significant declines in the levels of ecstasy use since the beginning of the new mil-

Table 15: Annual prevalence of ecstasy use, 2005 or latest year available

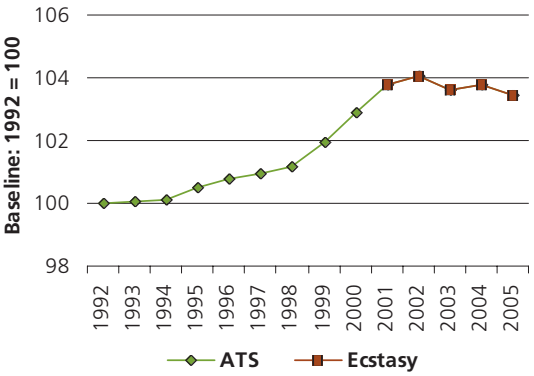
	Number of users	In per cent of population 15-64 years
EUROPE	3,105,000	0.6
West and Central Europe	2,788,000	0.9
South-East Europe	201,000	0.2
Eastern Europe	116,000	0.1
AMERICAS	2,696,000	0.5
North America	2,214,000	0.8
South America	482,000	0.2
ASIA	1,940,000	0.1
OCEANIA	627,000	3.0
AFRICA	193,000	0.04
GLOBAL	**8,561,000**	**0.2**

Above global average **Around global average** **Below global average**

Sources: Annual Reports Questionnaire data, various Government reports, reports of regional Bodies and UNODC estimates.

lennium. General population surveys in the USA found a decline in the use of ecstasy from 1.3 per cent of the population aged 12 and above in 2002, to 0.8 per cent in 2005.

Fig. 140: ATS/Ecstasy use trends* as perceived by experts: 1992-2005



* Note: Trends as reported by national experts in response to UNODC's Annual Reports Questionnaire. Points allocated for trend data: 'strong increase' 2; 'some increase': 1; stable: 0; 'some decline' -1; 'strong decline' -2. Reported drug use trends were weighted by the proportion of ecstasy users in a country expressed as a per centage of global amphetamine use. If all countries had reported 'some increase', the global trend line would have increased by one point each year and would have reached 113 by 2005. Ecstasy trend data were collected systematically only as of 2000. As there are indications from a number of countries that ecstasy trends in the 1990s showed similar growth rates as ATS in general, the latter trends are shown in the graph for the period 1992-1999 and are thus used as a proxy for the likely ecstasy trends.

Sources: UNODC, Annual Reports Questionnaire Data, UNODC Field Offices, UNODC's Drug Abuse Information Network for Asia and the Pacific (DAINAP), UNODC, Global Assessment Programme on Drug Abuse (GAP), Government reports, EMCDDA, CICAD, HONLEA reports and local studies.

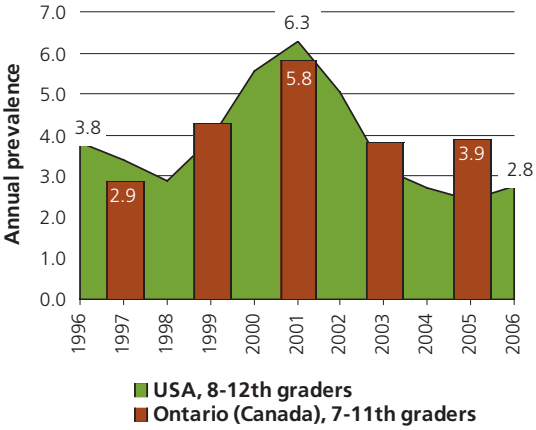
Ecstasy use data among high school students in the province of Ontario, Canada, showed a fall in annual prevalence levels by around one third between 2001 and 2005. In 2006, ecstasy use among US high school students was 55 per cent below the peak levels reported in 2001.

In 2006, this falling trend continued for 8th graders in the USA, though among 10th and 12th graders a small increase was again noted. Also in 2006, while availability was still perceived to be marginally declining, the risk perceptions, which had become ever more pronounced during the period 2001-2005, started to weaken again in 2006 but remained significantly higher (and availability far lower) than in 2001. Ecstasy use among US students also remained lower than a decade earlier.

… and stabilization/decline in large parts of Europe

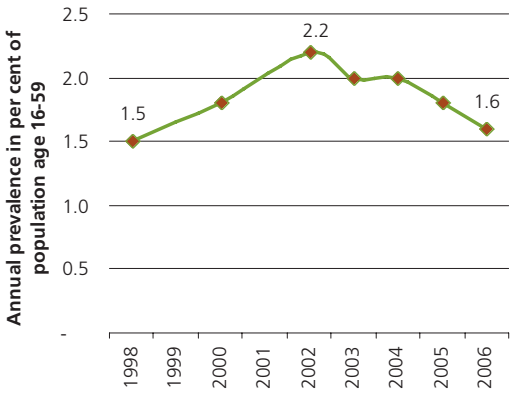
While in the 1990s, most surveys conducted in Europe showed ever higher levels of ecstasy use, this has now changed to a general trend towards stabilization at the higher levels that were reached since. In all of Western Europe and several countries of Central Europe, prevalence data show a stabilization or even a decline in ecstasy use. This stabilization/decline can be linked to more prevention efforts and campaigns across Europe, which informed youth and young adults of the potential dangers of ecstasy consumption. Other contributing factors include a diminished popularity of the 'rave' culture as well as some successes in limiting the supply of ecstasy by making it more difficult for the operators of clandestine laboratories to obtain the necessary precursor chemicals.

Fig. 141: Ecstasy use among high school students in the USA and Canada



Sources: NIDA, *Monitoring the Future – Overview of Key Findings 2006* and CAMH, *Drug Use among Ontario Students,* Toronto 2005

Fig. 142: Annual prevalence of ecstasy use in England and Wales, 1998-2006

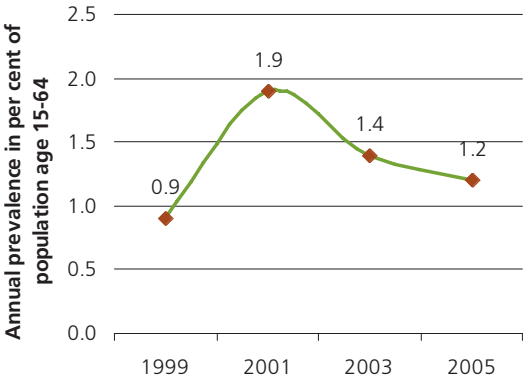


Source: Home Office, *Drug Misuse declared in the British Crime Survey,* 2005/06.

Some of the most impressive examples in this context are Spain, Europe's first ecstasy market that started to develop in the late 1980s, and the United Kingdom, which was for many years Europe's largest ecstasy market. Following massive increases in the 1990s (from just 1 per cent of the population aged 16-59 of England and Wales in 1994, to 2.2 per cent in 2002) annual prevalence rates of ecstasy use had again fallen to 1.6 per cent by 2006, i.e. by more than a quarter to approximately the same level as in 1998 (1.5 per cent). Similarly, household survey data for Spain showed increases in the 1990s and a decline by more than a third, from 1.9 per cent of the population aged 15-64 in 2001, to 1.2 per cent in 2005.

In contrast, in South-East Europe as well as Eastern Europe, ecstasy use rates were reported as continuing to rise (albeit rising from far lower levels). In 2005, all of the countries in Eastern and South-East Europe reporting to UNODC saw rising levels of ecstasy use.

Fig. 143: Annual prevalence of ecstasy use in Spain, 1999-2005

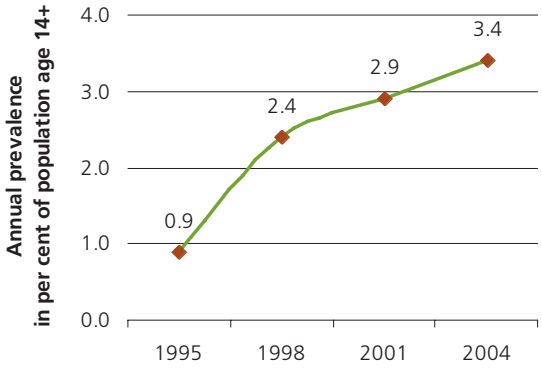


Sources: UNODC, Annual Reports Questionnaire Data and EMCDDA.

… and in Asia …

In 2005, following many years of continuing increases in ecstasy use, 8 Asian countries reported a stabilization and 5 saw a decline; only 4 countries reported an increase. In 2004, 10 countries reported an increase and only 2 a decline in ecstasy use. While these changes may be related to lowered imports from Europe, local production offset much of the import reduction.

Fig. 144: Annual prevalence of ecstasy use in Australia, 1995-2004



Source: AIHW, *2004 National Drug Strategy Household Survey*, Canberra 2005.

… while significant increases in ecstasy use were reported from Oceania until 2005, first signs of stabilization emerged in 2006 …

In Australia ecstasy use continued to rise in 2005. According to household survey data, ecstasy use rose in Australia from 0.9 per cent to 3.4 per cent of the general population by 2004, the world's highest level. This increase was in contrast to a general decline of drug use in that country over the last few years. Australia also reported the world's largest ecstasy seizures in 2005. Data collected through Australia's DUMA[19] (Drug Use Monitoring in Australia) system, suggest that the upward trend continued in 2005. The proportion of arrestees who tested positive for ecstasy increased from 0.5 per cent in 2000 to 2 per cent in 2004 and 2.5 per cent in 2005. However, data among arrestees for 2006 show first signs of a stabilization at the higher levels.

The Australian Ecstasy and Related Drugs reporting system (ERDS), which is based on interviews with regular ecstasy users, seems to confirm these results. The proportion of regular ecstasy users consuming more than a tablet per event declined in 2006 in New South Wales (from 84 per cent in 2004 to 70 per cent in 2006) and in Queensland (from 76 per cent in 2005 to 63 per cent in 2006), the two main ecstasy markets of the country. In Western Australia, South Australia, Northern Territory and Tasmania the opposite trends were observed. Therefore, in 2006, ecstasy use trends, among regular ecstasy users, appear to have stabilized for Australia on the whole. The median number of days ecstasy

[19] Under this system, arrestees in selected sites across the country are regularly tested (urine-analysis) for drug consumption within 48 hours of having entered custody.

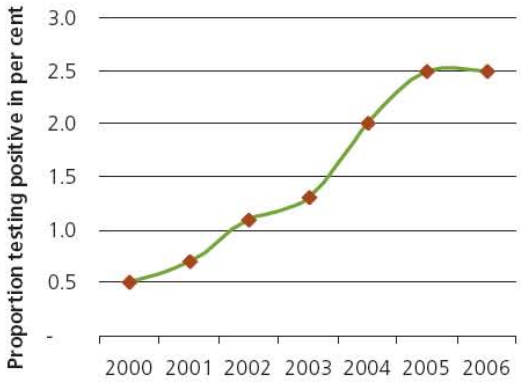
users consumed ecstasy tablets over the last six months also showed a stabilization, or even a small decline in 2006. Ecstasy prices remained stable in 2006 after having fallen in previous years, despite falling levels of ecstasy seizures in that year. The availability of ecstasy was not perceived to have increased, but to have remained stable despite falling seizures.[20] Therefore, in 2006, all indicators now point to a stabilization of the Australian ecstasy market, after having expanded strongly in previous years.

In New Zealand, authorities already saw a stabilization of the market in 2005.

… but increases are still reported from countries in South America

In the meantime, ecstasy use continued to increase in a number of developing countries as was the case in the countries of Central America and South America in particular. 5 countries in that region reported an increase, 3 saw a stabilization but not a single one reported a decline. Most of the ecstasy found in these markets continues to originate in Europe.

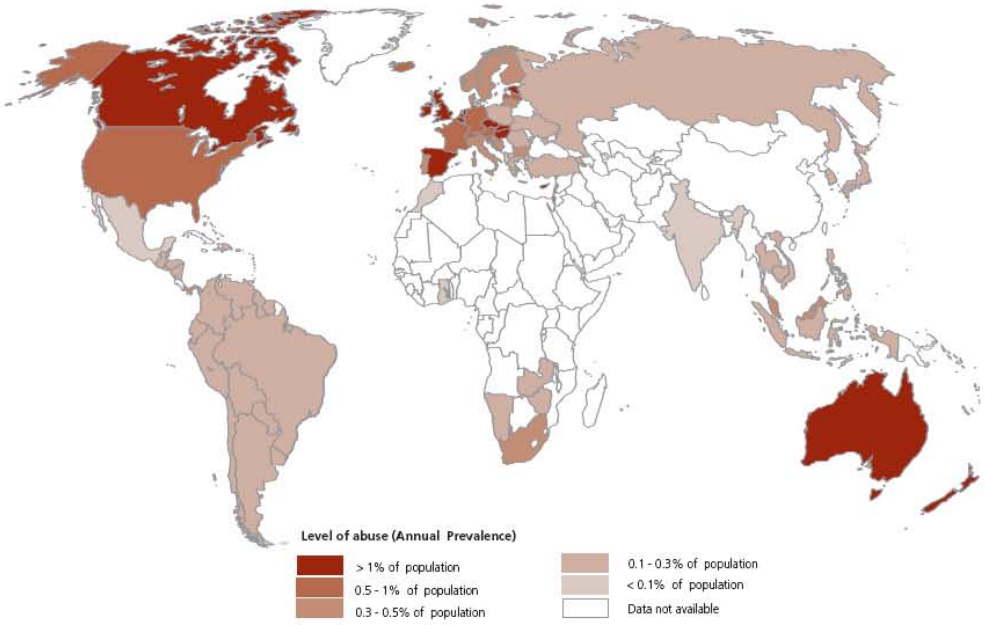
Fig. 145: Australia: Ecstasy use among arrestees in selected sites*



* New South Wales: Bankstown and Parramatta (both Sydney)
Queensland: Southport and Brisbane
South Australia: Elizabeth and Adelaide
Western Australia: Perth

Sources: Australian Institute of Criminology (AIC), *Drug Use Monitoring in Australia (DUMA)*, 2005 Annual Report on Drug Use among Police Detainees, Canberra 2006, and preliminary DUMA data for 2006.

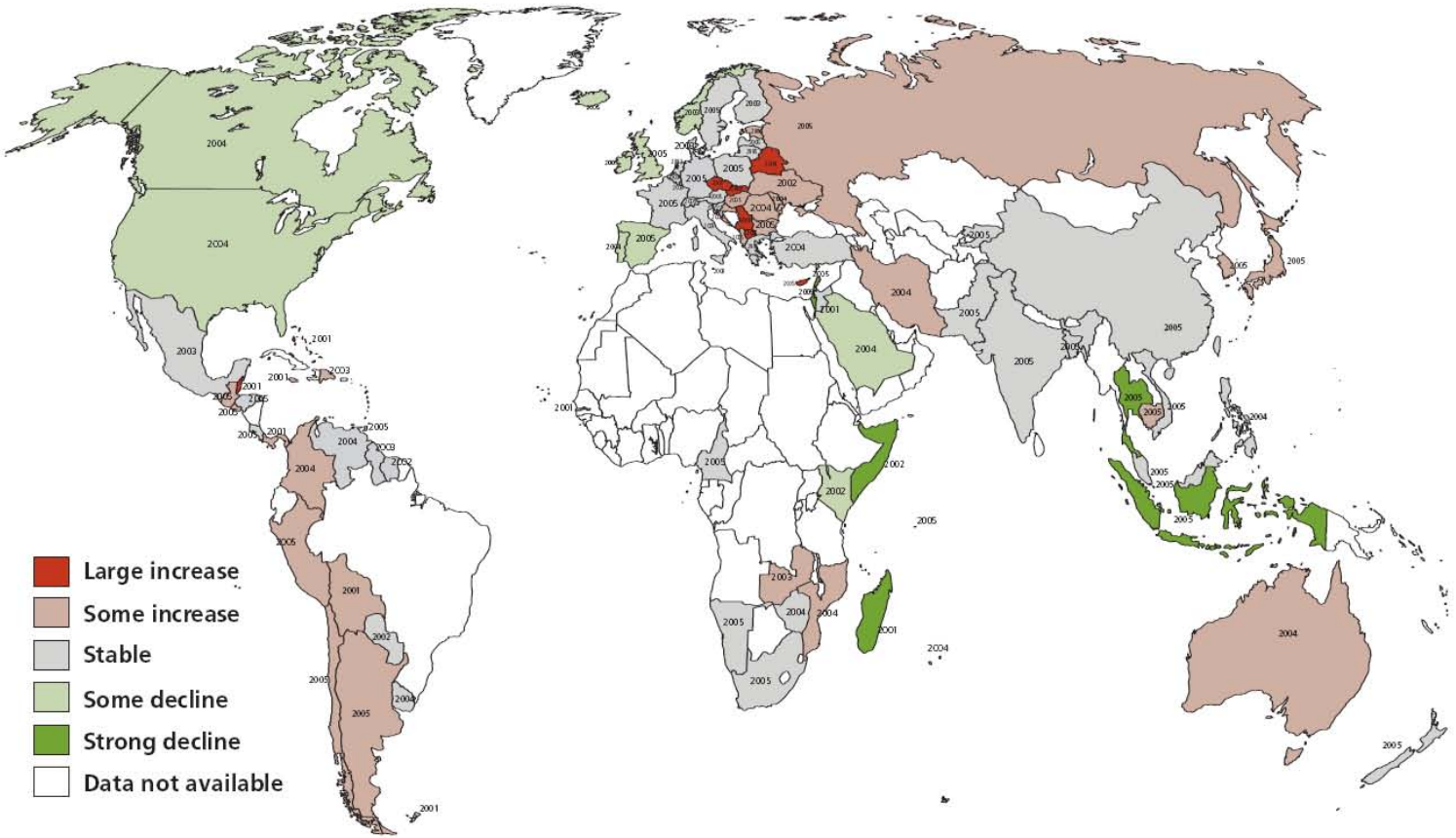
Map 25: Use of ecstasy in 2005 (or latest year available)



Sources: UNODC Annual Reports Questionnaires data/DELTA; Government Reports, US Department of State; European Monitoring Centre for Drugs and Drug Addiction (EMCDDA); Drug Abuse Information and the Pacific (DAINAP); UNODC Global Assessment Programme on Drug Abuse (GAP), Inter-American Drug Abuse Control Commission (CICAD).

[20] Ecstasy seizures, reported by the Australian Customs Service, declined from 2375 kg in the financial year of 2004/05, to 413 kg in the financial year of 2005/06. The number of ecstasy related seizures, made by the Australian Customs, declined from 169 to 135 (Australian Customs Services, 2006, reported in NDARC, *Australian Trends in Ecstasy and Related Drug Markets 2006*, Findings from the Ecstasy and Related Drugs Reporting System (EDRS), Sydney 2007).

Map 26: Changes in the use of ecstasy (MDA, MDEA, MDMA), 2005 (or latest year available)



Sources: UNODC Annual Reports Questionnaires data, National Household Surveys submitted to UNODC, United States Department of State (Bureau for International Narcotics and Law Enforcement Affairs) International Narcotics Control Strategy Report, Law Enforcement Reports, Reports from Epidimiological Networks.

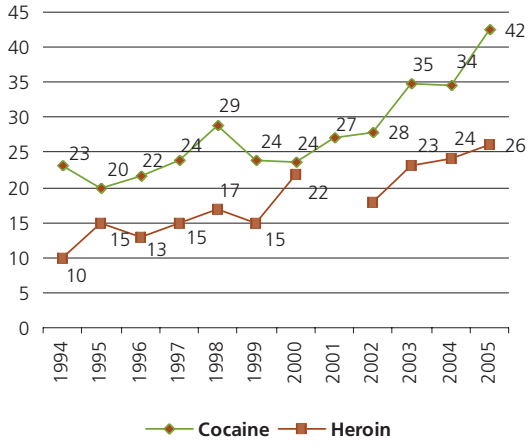
2. INVISIBLE EMPIRE OR INVISIBLE HAND?
Organized crime and transnational drug trafficking

2. Invisible empire or invisible hand? Organized crime and transnational drug trafficking

2.1 Introduction

Transnational drug interdiction is an evolving technology. Decades of experience, of successes and failures, inform the way anti-trafficking operations are conducted today. While the traffickers have also learned from experience, there have been clear gains in the share of the global drug outputs seized by law enforcement. Between 1994 and 2005, the share of global heroin production that was seized more than doubled, from 10 per cent to 26 per cent, while the share of global cocaine production seized increased from 23 per cent to 42 per cent. This chapter argues that documenting this success, particularly by capturing and analysing the details of each seizure, is key to ensuring that it continues.

Fig. 1: Share of global drug supply seized, 1994-2005*



Source: UNODC calculations

* data for heroin in 2001 not comparable due to Taliban ban

Attaching firm numbers to the transnational drug trade is important, because markets can be deceptive. What may appear to be highly coordinated enterprises are often the independent actions of a large number of people dancing to the same economic tune. In clandestine activities like transnational drug trafficking, it can be even more difficult to distinguish centralised control from common motivation, or to know the rules that govern market activity. The process of transporting drugs like cocaine and heroin across multiple borders, often by convoluted routes, is an operation of considerable complexity, which would seem to call for large, specialised organizations. But it remains unclear whether highly organized crime groups do, in fact, dominate the global drugs market.

Admittedly, quantifying a clandestine phenomenon like organized crime is a complex undertaking, and most indicators will, of necessity, be indirect. But these difficulties must be overcome, because having an accurate picture of illicit activity is vital to formulating sound policy. To tackle transnational drug trafficking, it is important to understand how it is organized, and by whom. If large organizations were driving the trade, then targeting these organizations would be essential to stopping the flow of drugs. If, on the other hand, the organizations are merely participants in a freestanding market, then the market itself must be addressed. For example, the classic strategy for combating organized crime involves pressuring low-level functionaries to inform against high-ranking crime bosses, with the aim of "decapitating" the criminal organization. This technique is useful where top-down command structures mean that the important information for directing the criminal activity is concentrated at the top. But this approach is far less effective when the criminal activity is not reliant on such a hierarchy.

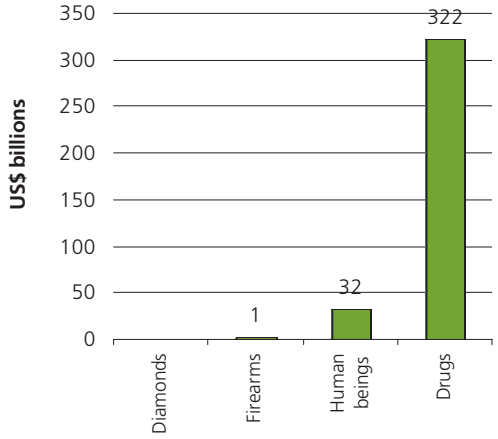
Similarly, crime networks can be disrupted by identifying the weak links in a criminal commodity chain, or by targeting those actors whose skills are in relatively short supply. For example, in 2000/2001, Australian law enforcement was able to significantly disrupt local heroin trafficking networks by focusing on the relatively small number of brokers who brought together suppliers, financiers, skilled traffickers, and street distributors. This tack would be less successful where the skills needed to conduct the criminal activity, as well as the incentives to do so, are widespread.

Thus, a key question for international drug law enforcement is: how important are large criminal organizations to the drug trade? This brief chapter suggests some ways

in which this question might be answered.

Drug trafficking is of interest to transnational organized crime groups because drugs generate more profits than any other form of trafficking. Placing a value on illicit markets is difficult, but the estimates generated by specialist organiations show that the drugs trade is greater in value than most other criminal commodities by at least an order of magnitude. In the 2005 World Drug Report, UNODC valued the world narcotics trade at some US$320 billion, a figure in keeping with previous estimates from a variety of sources. Estimates for other major illicit flows are considerably less. For example, in 2005 the International Labour Organization estimated the value of global human trafficking to be US$32 billion.[1] Estimates of the value of the trade in conflict diamonds range from 1.5 - 2 per cent to 3 -15 per cent of the overall trade in rough diamonds.[2] Small Arms Survey puts the value of the illicit firearms trade at no more than US$1billion.[3] The relatively high value assigned to the drug trade is understandable because, unlike human beings, diamonds or firearms, the drug supply is consumed each year and in need of continuous renewal. As a result, drug trafficking remains the single most profitable sector of transnational criminality.

Fig. 2: Estimated global value of illicit markets



Source: UNODC, 2005; ILO, 2005; US GAO, 2002; Small Arms Survey, 2002iv

These profits accrue to a wide range of actors, from poor rural farmers to affluent urban dealers. But, in many instances, the single most profitable sector of the market is the process of transporting the drugs internationally. The funds raised by trafficking groups can be used to underwrite other criminal activity and even political insurgency. It is thus vital for international security that firm tabs be kept on the identity and nature of the groups that benefit from the drug trade.

What share of this lucrative market is controlled by organized crime groups? It is true that most known organized crime groups engage in drug dealing, but this is rarely the only form of criminal activity in which they are involved.[5] It is also true that, under the broad definition of the United Nations Convention against Transnational Organized Crime, nearly all transnational drug trafficking is conducted by organized crime groups. Under the Convention:

[an] organized criminal group [is] a structured group of three or more persons, existing for a period of time and acting in concert with the aim of committing one or more serious crimes … in order to obtain, directly or indirectly, a financial or other material benefit.[6]

Transnational drug trafficking generally requires the involvement of at least three people, it requires some time, and is profit-motivated, so most drug trafficking groups would be considered organized crime groups under this schema. But the Convention definition was cast broadly, in the interest of capturing the wide range of international experience. For the purposes of analysis, it is important to distinguish between degrees of organization.

Drug trafficking groups today appear to lie along a spectrum. On the one hand, there are the groups that popularly spring to mind when "organized crime" is mentioned: large, highly-structured, longstanding groups, the criminal equivalent of a transnational corporation, perhaps best typified by the Sicilian Cosa Nostra in its heyday. On the other hand, there are the small, flexible and impermanent associations of entrepreneurs and criminal service-providers commonly labelled "criminal networks", of which West African organized crime groups are often used as exemplars. Even less organized are those groups which, while they may fit the Convention definition, involve a large number of people who would not consider themselves professional criminals, organized mainly by market forces. While all of these likely play a role in global drug trafficking today, it remains unclear what shares of any given drug flow each group commands.

Many national and regional organizations provide annual assessments of organized crime and its involvement in drug trafficking. These are based on criminal intelligence, including much field experience. However, they typically focus on a single country or region, and they are largely qualitative assessments. These reports could be greatly enhanced by a set of standard indicators that could be tracked over time, globally. The following section suggests some possible candidates for this purpose.

Has organized crime become less organized?

Crime experts appear to agree that the traditional image of organized crime groups as highly structured, hierarchical entities has become outdated. Increasing emphasis is being placed on more flexible structures involving networks of skilled individuals. For example, Europol has recently argued that, "Organised crime groups are becoming increasingly heterogeneous and dynamically organised in structural terms, moving toward loose networks rather than pyramidal monoliths …While there are criminal groups organised along the homogeneous and hierarchical lines, many groups are in practice loose networks of relatively independent members that coalesce around one or more prominent criminals. These networks take up tasks of varying structure, length and complexity according to the demand and concrete profits."[7]

The consensus among experts seems to be that the global drug trafficking situation has also become more complex in recent years, with many groups emerging that are smaller, more flexible and more temporary than they were in the past. As one Rand study points out, "The old [mid-1980s] images of highly centralized and controlled drug distribution systems have largely disappeared in [the] face of growing evidence of competitive violence and the failure of individual organizations to endure in dominant positions."[8] This decentralisation has allegedly manifested itself in several new features:

- *Diversification of activities* – Criminal activities are increasingly diversified,[9] with drug traffickers moving other forms of contraband as well, and simultaneously engaging in legitimate business. In some regions, such as Europe, poly-drug trafficking has become common.[10] Of the European drug seizures captured in the UNODC Individual Seizures Database in 2003, 39 per cent involved more than one drug, a trend not reflected in data from the Americas. In some user countries, poly-drug brokers have emerged, linking what are often single-drug importers to street distribution networks.[11]
- *Diversification of personnel* – While ethnic links remain important, many groups involve people of multiple ethnicities and nationalities. If expertise is needed which lies outside the group, alliances may be made with other organized crime groups or individuals may be contracted to do the work. These service providers may be otherwise uninvolved in criminal activity and maintain an image of legitimacy.[12] Individuals from non-criminal backgrounds may also be recruited for specific tasks, including murder.[13] Gangs from ethnic minority communities may also be contracted to do the "dirty work" of majority organized crime groups.[14] Transnational organizations may make alliances with indigenous crime groups to access a new territory as a destination or a transit zone.[15]

It is difficult to determine to what extent these perceived changes are real and to what extent they are a manifestation of a growing understanding of what constitutes organized criminal activity. In the past, many may have regarded the classic mafia-type hierarchy as the only true manifestation of organized crime, but research and legislative changes, including the use of the Convention definition, have expanded the scope of the discussion. For example, based on commissioned research, the European Union has begun to shift its focus from "criminal groups" to "criminal activities and the individuals involved in those activities".[16] In other words, it has been recognised that the past focus on criminal organizations may have been misplaced, as many relevant individuals and activities fall outside these structures. This change in perspective may lead to the recognition of complexities that were previously overlooked.

2.2 Assessing the degree of organization

The Convention definition supports the idea that the size and longevity of the groups involved are essential components of organization. But how can the size and permanence of the groups involved in any given drug flow be determined? This chapter suggests that at least five currently available indicators could be useful for this purpose:

- The share of total seizures that are large seizures.
- The diversity of techniques and routes used.
- The nationality of those arrested in connection with seizures.
- Regional price differentials and volatility in drug producing countries.
- The levels of drug use in transit countries.

This is not an exhaustive list, of course. Many other variables could be useful if the data available were sufficiently robust. For example, although UNODC gathers drug price data from countries around the world,

these data are provided by local law enforcement agencies, which may use a range of methodologies in making estimations. As a result, these data are not easily comparable and there are many gaps in the information base. Further, any one of these indicators is subject to multiple interpretations and could be misleading if viewed in isolation. Looking at a range of indicators and combining this information with qualitative intelligence can generate a more accurate picture of these hidden enterprises. Where apparent contradictions emerge, exploring these can lead to even greater insights into the world of drug trafficking.

Among available data, some sense of the size of the organizations can be gained by reviewing law enforcement records of **major seizures**. While small seizures do not preclude the involvement of large organizations, large seizures are indicative of well-resourced actors. Groups that can afford to invest in individual drug shipments worth hundreds of millions of dollars are likely to be large and professional. In contrast, anyone with a small amount of operating capital and the right connections can attempt to transport drugs concealed on their person on a commercial air flight. It is possible that a temporary consortium of independent actors could pool resources to import, for example, a one-off multi-ton maritime consignment of cocaine from South America via the Caribbean and West Africa into Europe, but it is far more likely that such activity is directed by large and sophisticated organizations with some longevity.

A large number of smaller seizures does not preclude organization, however. For example, until recently, the Netherlands Antilles was a major transit country for body couriers bringing cocaine to Europe in their intestines. Between 1 January 2004 and 1 April 2006, 6,147 couriers were identified arriving at Schiphol Airport from the Dutch Caribbean, and 7.5 mt of cocaine were seized.[17] It is believed that between 80 and 100 couriers per day were passing through the Hato International Airport in 2003, with tens arriving on a single flight.[18] This "shotgun" method of couriering is highly associated with West African crime networks and other similar groups, which employ small armies of couriers carrying around a kilogram of cocaine apiece. But while such trafficking organizations are highly flexible and endeavor to stay one step ahead of law enforcement profiles, they tend to utilize a single channel and technique of trafficking until it is no longer profitable. Where it is clear that a wide range of **trafficking techniques and routes** are being employed, this is probably indicative of a wide range of independent actors, rather than a few puppet-masters coordinating thousands of individual strings.

However, a caveat must be registered here. In general, the smaller the share of the total drug flow reflected in the seizure figures, the less certainty these figures provide. The resolution of our image of drug trafficking is proportionate to the number of pixels available. For example, the absence of large seizures does not preclude the existence of large syndicates if seizures comprise a small share of the total flow. Under these circumstances, it is possible that large shipments are protected by corruption, and that the small seizures only reflect the removal of petty competition. Where seizure rates are low, the other indicators, as well as police intelligence, become more important.

UNODC maintains two databases on seizures: the national seizure totals as reported by Member States in the Annual Reports Questionnaire (ARQ)[19] and the Individual Drug Seizures database.[20] The latter includes detail on seizures above a threshold amount, including seizures of above 100 grams for cocaine and heroin. This amount is too large for personal use or even for most dealers to hold in stock at any given time: 100 grams of cocaine or heroin retails for about US$10,000 in Western Europe. The intent is to focus on drugs held by traffickers, rather than the small amounts encountered when domestic users are arrested. Additional details are provided in these reports that allow a comprehensive picture of seizure patterns to be formed, including the exact geographic location of the seizures, trafficking method, and nationalities of those arrested. Unfortunately, a relatively small number of countries provide this information and when they do, it is not always complete. The dynamics of global drug markets would be much clearer if every country endeavoured to contribute their information to the international data pool.

Where sufficient data are available, it is possible to compare the individual large seizures with national seizure totals. If the bulk of the seizures in a particular transit stream comes in the form of very large shipments, this suggests that the groups involved are large and well resourced, because smaller groups simply could not afford shipments of this size. Similarly, seizure of large amounts of cash or expensive property could be used as an indicator of large organizations. If, on the other hand, most of the drugs are seized in a large number of small seizures, this indicates smaller trafficking groups, especially if these seizures involve diverse trafficking techniques.

A further indicator of the degree of organization is the **nationality of the arrestees** when a seizure is made, particularly in destination countries. If the arrestees originate from the drug producing countries, this would suggest that the groups involved could have a hand in all aspects of the trade, from cultivation to distribution,

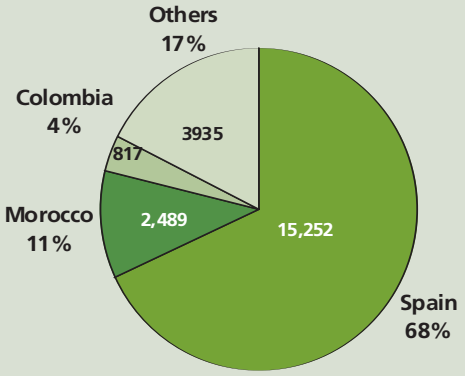
Nationality/ethnicity and organized crime

Describing organized crime groups is problematic, not only due to their clandestine nature. Organized crime groups are often described by the dominant nationality of their members. However, some researchers argue that although "….culture, language and set of values can sometimes (but not always) increase trust, communication and, ultimately, competitive advantage for some groups, it is inaccurate to adopt ethnicity as the only, or main, dimension for classification of organized crime groups."[21]

Clearly, speaking about the relationship between criminality and ethnicity/nationality is dangerous. In addition to fuelling xenophobia and reinforcing stereotypes, it is politically problematic because the language used suggests the involvement of national governments or impugns national character. Often, no distinction is made between foreign nationals and citizens of foreign descent. But while there certainly exist multinational and multiethnic organized crime and drug trafficking organizations, there remains a strong relationship between ethnicity/nationality organized crime.

Due to the transnational nature of the crime, a significant share of the traffickers who are arrested each year are not nationals of the country where this arrest took place. For example, of the 11,787 people arrested for cocaine trafficking by the federal authorities in the USA in 2004, 2,373 were foreign nationals (25%), including 1,410 Mexican nationals (12%). This does not include those US citizens of Mexican descent who are involved in domestic drug markets. Past research has indicated that just under half of all federal drug arrestees were Hispanic,[22] and people of Mexican descent comprise by far the largest Hispanic group in the USA. Similarly, in Ecuador, of the 915 people arrested for cocaine trafficking in 2004, 227 were foreign (25%), including 117 Colombians (13%). In Spain, 34 per cent of cocaine trafficking arrests in 2004 involved foreigners, as did 32 per cent of drug trafficking arrests overall. Looking just at major seizures, of the 40 people who were arrested with more than 100 grams of cocaine in Nicaragua in 2004 and whose nationality was known, 14 were foreign nationals (35%), including eight Guatemalans and five Hondurans.

Fig.3 : Nationalities of individuals arrested for drug trafficking in Spain in 2004



Source: UNODC ARQ

Many non-criminal transnational business activities are commonly discussed in terms of nationality, because diaspora communities are a recognised basis for much international commerce. Cultural norms can explain behaviour that appears irrational in terms of simple market logic and can help in predicting how groups will behave. There are clear cases where relationships in the home country (including national political as well as neighbourhood/kinship relations) affect transnational operations – that is, the criminal behaviour has less to do with the country where it is manifest than the country from which the traffickers originate. Without reference to the origin country, this behaviour would be inexplicable. Finally, for simple operational purposes, the association between certain national groups and trafficking provides invaluable clues as to where fugitives may flee, likely transit countries, and favoured money laundering and investment sites. As a result, the dominance of certain national groups remains a key issue in many drug markets.

indicating a high degree of sophistication. High levels of participation by citizens of transit countries, on the other hand, suggest that the drug has been re-sold in transit. While there may be other explanations, this suggests the groups involved at the outset did not have the capacity to deliver the drugs all the way to their final destination. If arrests in transit countries involve primarily the nationals of these countries, this also indicates that the international drug flow is, in fact, merely the sum of national drug flows, percolating slowly toward higher value markets. Of course, when the user country and the destination country are the same, or immediately adjacent to one another, no such conclusion can be reached.

Provincial drug price data in drug producing countries can be useful in evaluating the degree of organization at the start of the market chain. Large regional price differentials which cannot be explained by geographic or law enforcement barriers suggest strong local controls over the supply. If the supply were not well controlled by regionally based interests, national price equilibrium would quickly be achieved by competition between these local markets. In other words, stark price differences in drug producing countries indicate an unseen barrier to competition, likely a regional monopoly held by a powerful organization. Of course, nationally homogeneous prices could be indicative of a single, all-powerful cartel. Price stability is likewise an indicator of large organisations, resistant to the vagaries of changes in production and interdiction rates, possibly holding drug stockpiles. High levels of volatility in prices, on the other hand, are indicative of competition or vulnerability to shocks, both of which could be indications of contested markets and thus possibly less organized criminal groups.

Another indicator of poor transnational delivery capacity is the **presence of drug users in transit countries**. The goal of drug trafficking organizations is to gain profits, and this is best achieved by delivering the drugs to the markets where they command the highest prices. Any "spillage" of drugs before reaching their highest-value destination represents the kind of inefficiency typical of under-resourced groups, who may pay couriers in drugs rather than cash. This manifests itself in drug use problems in transit countries with lower value markets. As a result, low levels of drug usage in these transit countries indicate that the drug flow is either highly organized or relatively new.

While all of these indicators – the size of seizures, the techniques and routes involved, the nationality of the traffickers, local prices in production countries, and the levels of drug use in transit countries – can be deceptive in some cases, their use in combination can provide an important supplement to qualitative criminal intelligence. In order to explore the potential of using seizure, price, and drug use figures to get a sense of the extent of organisation in contemporary drug trafficking, two of the most important drug flows in the world are discussed and compared in the remainder of this chapter:

- the traffic of cocaine from Colombia via Central America to the USA; and,
- the traffic of heroin from Afghanistan via Central Asia to the Russian Federation.

These two examples were chosen to contrast a well established drug flow involving a number of large drug trafficking organizations (cocaine via Central America) with a relatively recent pattern of trafficking where the groups involved appear more diffuse (heroin via Central Asia). These are also the two drug flows where governments have contributed comprehensive data for several affected countries, including detailed information on a large number of seizures in Colombia and the Russian Federation.

This analysis is not intended to provide the final word on the level of organization in either of these trafficking areas, bur rather to "test drive" the indicators to see how they might work in application to a real world situation. Despite excellent data in some instances, there remain great gaps in what we know about both trafficking patterns. In the end, this analysis is less about providing definitive answers than suggesting the kind of questions that should be asked.

2.3 Cocaine via Central America to the USA

The organizations involved in trafficking of cocaine to the USA have traditionally been highly organised. During the 1980s, the groups involved were even dubbed "cartels". A cartel is a consortium of businesses whose combined domination of an industry is so complete that they can collaborate to set prices and otherwise manipulate the market to their mutual benefit. While some dispute the applicability of this term to the Colombian groups, at its peak the Cali cartel is said to have been responsible for up to 80 per cent of cocaine trafficking to the USA, then, as now, the world's largest consumer of the drug.[23]

The cartels were subjected to the full weight of international law enforcement during the 1980s and 1990s: their assets were seized and their leadership extradited and imprisoned. Insofar as the organizations were concerned, this strategy worked, and the Medellin and Cali cartels were effectively eliminated. In their place sprung

Map 1: Central American countries affected by cocaine trafficking from Colombia to the United States

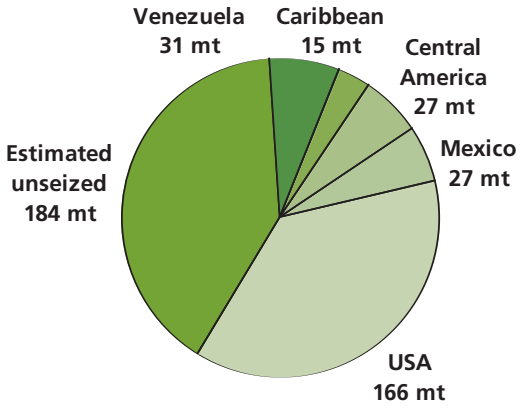
a large number of lower-profile groups, the so-called "baby cartels", said by some to number in the hundreds.[24] While some of these have achieved more prominence than others, there are no organizations comparable to the Cali and Medellin groups today. In fact, Colombian groups have lost their monopoly over cocaine trafficking altogether and currently most of the drugs reportedly enter the USA in the hands of Mexican organized crime groups. The respective roles of the Colombian and Mexican syndicates are discussed further below.

Most of the world's cocaine still comes from or through Colombia, and most of the world's cocaine is still consumed in the USA. UNODC estimated global cocaine production to be 1,008 mt in 2004, of which 640 mt was produced in Colombia, 270 mt in Peru, and 98 mt in Bolivia. In 2004, Europol estimates about 200 mt went to Europe[25] and the US National Drug Intelligence Agency estimates between 325 and 675 mt went to the USA.[26] Based on previous years' estimates, this total is probably in the order of 450 mt.[27] If all of these 450 mt were wholesaled in the USA, they would be worth just under US$12 billion today, and three to five times that at retail level.[28] Some 80 per cent of this flow travelled by private boats.[29] The fact that so large a share is maritime suggests high levels of organization, as shipments are likely to be sizable and sea craft are a relatively expensive means of transport, given the risks of asset forfeiture.

According to US estimates, some 88 per cent of the cocaine destined for the USA transits the Central America/Mexico corridor, about 50 per cent along the Pacific and 38 per cent along the Caribbean coast of Central America.[30] This is in keeping with what the Colombian authorities report: about 60 per cent of the seizures in Colombia occurred at the ports, 60 per cent on the Pacific and 40 per cent on the Atlantic.[31] In more concrete terms, this would be equal to about 250 mt along the Pacific and 200 mt along the Caribbean. Of this flow, the US estimates 196 mt were lost or seized in transit, and 34 mt were seized at the US border, in 2004.[32] In other words, about half the cocaine destined for the USA never arrived at its destination. If these estimates are accurate, data on seizures represent a very large sample of the overall flow.

Of the 2004 seizures of cocaine in the Western Hemisphere, 62 mt (about 6 per cent of total annual production) can be traced to just 26 seizures of more than 1 mt documented in the Individual Seizures Database, most of which occurred in Colombia. Today, 1 mt of cocaine

Fig. 4: Cocaine seizures in Colombia/US transit zone in mt, 2004



Source: UNODC Delta database

wholesales for about US $1.9 million in Colombia, and retails for over US$100 million in the USA. According to media reports, a seizure of 13 mt of cocaine, said to be the property of the Norte de Valle cartel, was made in early 2007 in Colombia.[33] Seizures of this scale suggest a substantial concentration of the market in the hands of a limited number of organizations at the outset of the trafficking chain.

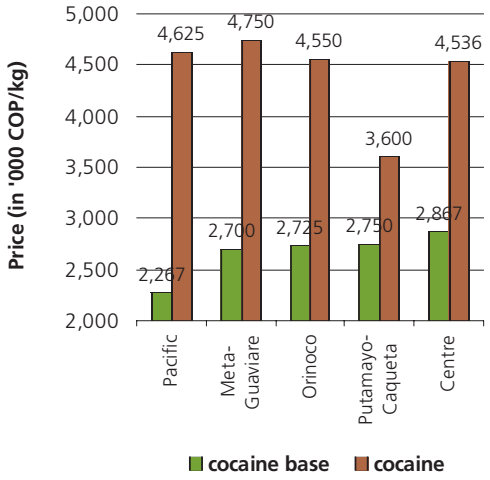
The Colombian source

Coca is a plant, so the first link in the supply chain is the farmers. The cultivation of coca leaf is a highly decentralised activity, due to the need to conceal the crop from a continual campaign of aerial spraying and manual eradication. The average plot size is small, about one hectare, making coca growing a kind of family business. In 2005, some 68,600 households were involved in this activity, cultivating in 23 out of Colombia's 32 provinces.[34] No one believes that these tens of thousands of households are directly in the employ of organized crime, but neither are they simply freelance market players. Particularly in the areas controlled by insurgent or paramilitary groups, a variety of mechanisms may be used to encourage coca cultivation, and those who grow the drug are not simply peasants cultivating a traditional crop. The UNODC/Government of Colombia 2005 Coca cultivation Survey found that only one third of the farmers were just cultivators – the balance were involved in processing the plant into drugs, up to the point of creating cocaine base.

There is substantial regional variation in the price paid for cocaine base and the refined cocaine. While data are sparse, it appears that cultivators in the Pacific region, open to sea trafficking lanes, were paid substantially less for base than those in the centre of the country. If base were trafficked within the country, this would result in a paradoxical loss of value as the drug is moved closer to departure. Of course, the Pacific region is home of the Cali and its successor Norte de Valle cartels, and may still be home to syndicates powerful enough to control prices paid to farmers and resist local competition. Cocaine prices comply more closely with market logic, though regional variations of almost 25 per cent also suggest that the market for cocaine may not be competitive on a national level. Whether this is due to the regional domination of certain crime groups, to law enforcement pressure or to some other cause remains uncertain.

Coca cultivators do not create the finished drug, however. The processing of cocaine base into cocaine hydrochloride requires a laboratory of some sophistication, so these are generally operated by specialists, not

Fig. 5: Regional prices of cocaine base and cocaine in September 2005



Source: UNODC Country Office in Colombia

farmers. Each syndicate, including insurgent and paramilitary groups, runs its own laboratories, so these are directly in the control of organized crime. The Colombian government destroyed 243 cocaine hydrochloride laboratories in 21 provinces in 2004 and 163 in 19 provinces in 2005. According to the Colombian Dirección de Antinarcóticos (DIRAN), an average laboratory can produce between 300 kg and 500 kg per week, or, in theory, up to 26 mt per year. If true, total cocaine production could be handled in just 25 laboratories. Given the wide dispersion of cultivation, however, the proliferation of sites may be tied to logistic convenience, and is not necessarily an indicator of a multiplicity of independent actors.

Large amounts of cocaine are found virtually everywhere in the country, so it is remarkable that adult annual cocaine use prevalence is only 0.8 per cent of the population age 18-65, more than twice the global average, though less than a third of that in the USA. This indicates high levels of control over the cocaine supply. As is the case in many agriculture-exporting countries, export stock is not widely consumed locally.

In order to generate the multi-ton loads leaving the country, a process of consolidation must occur before trafficking, and this implies large organizations. As in many other drug producing regions of the world, there appears to be a symbiotic relationship between political instability and the drug trade. There is strong evidence to show how both the insurgency (principally the Revolutionary Armed Forces of Colombia, the FARC) and

the paramilitary forces (the United Self-Defence Forces of Colombia, the AUC), progressed from simply "taxing" the crop in the past to assuming a managerial role over production in the regions they control.[35] There is also some evidence, principally concerning the AUC, that these groups have been involved in transnational trafficking, including trading drugs for arms.[36] This is not surprising, as many AUC units were founded with drug trafficking money. But while these groups are key in the cultivation, processing, and consolidation of the drug loads, their concerns remain highly local. The bulk of the trafficking appears to remain in the hands of a larger number of smaller professional drug smuggling groups – the so-called "baby cartels".

Over the past two decades, Mexican groups, which had previously been used instrumentally by the Colombians, have increasingly taken control of the US market. This transfer of responsibilities has not been complete, however, and Colombian groups, as well as their Dominican associates, remain prominent in the wholesale and retail trades in the northeast part of the USA. In addition, it appears that Colombian trafficking organizations have expanded operations in Mexico, taking advantage of the disarray of the Mexican syndicates following law enforcement successes and inter-syndicate warfare.[37] Mexican groups have also extended their reach and have expanded presence in producer countries, Peru in particular.[38] Although only 20 Mexicans were arrested for drug trafficking in Colombia in 2004, several were associated with large seizures.

While there is no clear delineation of function, there has been a clear shift of roles over time, with the Colombian nationals generally forming the first part of the chain and Mexican nationals assuming responsibility for getting the drug to its destination markets in the USA. It is not clear at what point most of the cocaine leaves the possession of Colombian groups and becomes the property of Mexican groups, but most of it leaves Colombia in Colombian hands and crosses the US southern border in Mexican hands.

Large seizures are also made in Venezuela, which might be considered to be less a transit country than a sort of proxy source country, given the permeability of the borders. Under growing pressure from the government, both insurgent groups and traffickers appear to have relocated across the border, and, increasingly, suspect air and sea activity is originating in Venezuela.[39] A total of 31 mt of cocaine were seized in Venezuela in 2004, the fourth largest annual seizure total in the world. Individual seizures include one of 7.6 mt and at least three other multi-ton seizures totalling over 15.5 mt, or about half of the annual seizure total. This indicates that cocaine trafficking though Venezuela, as in Colombia, involves well-organized and well-resourced groups.

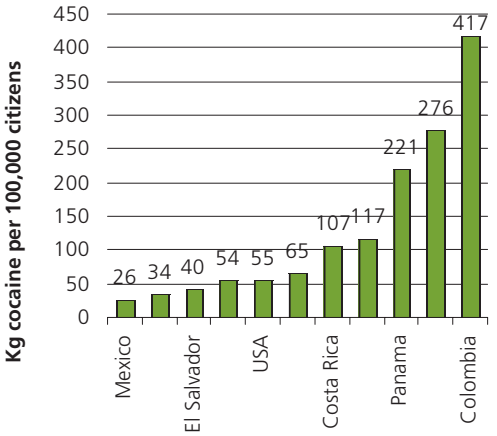
The Central American link

Central America is comprised of seven small, under-resourced countries that serve as re-fuelling stops or transit zones for cocaine moving northward. It does not appear that Central American groups assume ownership of most of the large shipments transiting the region. The US government asserts that Central American countries are used as stockpiling locations, particularly Guatemala.[40] Guatemala has ports on both the Pacific and the Gulf of Mexico, as well as large wilderness areas bordering Mexico, making it an ideal spot to store cocaine destined for Mexico while avoiding the scrutiny of Mexican law enforcement. The role Guatemalan organized crime groups play in transnational cocaine traffic is unclear, however.

Lack of law enforcement capacity means that seizures, or the lack thereof, do not necessarily reflect the flow of drugs through the region. About 27 mt were seized by the Central American countries in 2004. Though comprising only 5 per cent of global cocaine seizures, this amount is remarkable when considered on a per capita basis.

UNODC individual seizure data for the region is patchy, but both Nicaragua and Honduras submitted complete reports for 2004. Along the Atlantic coast of Central America, most of the drug traffic is shuttled by go-fast boat, so re-fuelling stopovers can occur in relatively isolated areas. Large parts of the Caribbean coast of Nicaragua and the Mosquito Coast of Honduras are sparsely populated. These two countries comprise the longest stretch of coastline along the Caribbean route. In

Fig. 6: Kilograms of cocaine seized per 100,000 citizens in 2004

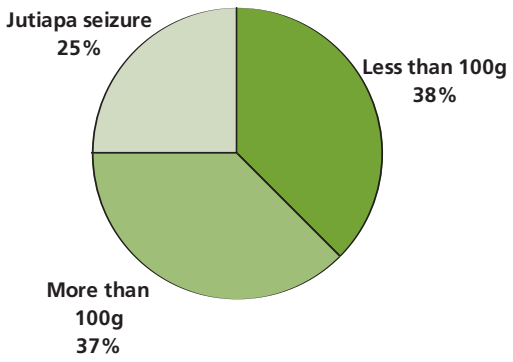


Source: ARQ

Honduras in 2004, police made 86 arrests for cocaine and 42 for crack. Since crack is bulkier than cocaine and is easy to manufacture on-site, it is rarely trafficked internationally, so crack seizures are generally indicative of local use levels, not transnational smuggling. Looking just at the 86 cocaine arrests, 21 involved quantities of more than 100 grams, comprising 62 per cent of all the cocaine seized that year. One seizure, on Jutiapa Beach, netted 1 mt of cocaine, more than 25 per cent of the cocaine seized that year. All seizures of over 100 kg were destined for the USA. Similarly, in Nicaragua in 2004, some 42 per cent of the cocaine recovered that year was seized in just two major seizures on the Atlantic coast. The size of these individual seizures in comparison to the small size of the lesser traffic suggests a high degree of organization in the movement of cocaine through this area.

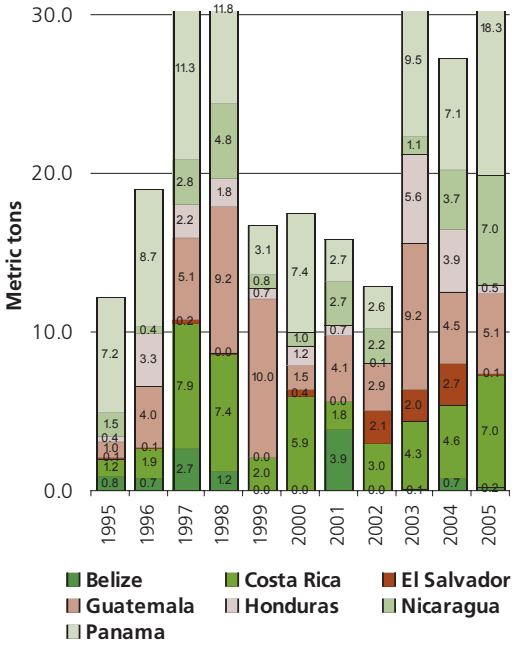
The importance of large seizures to the national seizure totals of the Central American countries is manifest in the extreme volatility of total seizure levels from one year to the next. For example, Belize seized 13 kg of cocaine in 2000, 3.1 mt in 2001, and 10 kg in 2003. Honduras seized 79 kg in 2002 and 5.6 mt the next year, a year-on-year increase of 7100 per cent. El Salvador went from 32 kg in 2001 to 2 or 3 mt from 2002 to 2004, before plunging back down to 32 kg in 2005. Even Panama's totals have ranged from about 2.5 mt in 2002 to 14 mt in 2005. It is unlikely that these variations are reflective of changes in trafficking or enforcement patterns. Rather, those years in which the large-scale traffic is untapped show that the small-scale traffic is relatively insignificant. Thus, volatility in seizure trends for small countries, in combination with other indicators, may be an indicator of high degrees of organization.

Fig. 7: Cocaine seizures in Honduras in 2004



Source: Annual Reports Questionnaire and Individual Seizure Database

Fig. 8: Metric tons of cocaine seized in Central American countries (rounded)



Source: UNODC ARQ data

While minor in impact, there does appear to be a large number of incidents of international movement of small amounts of cocaine within Central America and/or involving Central Americans travelling internationally. Central Americans have been arrested numerous times in recent years in the USA, Spain, Germany, and parts of South America for involvement in cocaine trafficking. The amounts involved are generally moderate and the techniques involved run the gamut, from intestinal couriers travelling on commercial flights to concealment in luggage on transnational bus lines and custom fitted freight vehicles travelling the Pan-American Highway. This wide range of techniques and routes suggests numerous smaller operations, as coordinating these myriad ventures would be a logistic nightmare for a centralised organization.

Given per capita seizure figures, it is remarkable that use levels in the region are quite low. Less than 200,000 people use cocaine in the seven countries of Central America every year, compared to a user population in the USA of 5.5 million. In the 2005 *World Drug Report,* the UNODC estimated that each Central American cocaine user consumed, on average, about 20 grams a year. This would result in a total demand for the region of less than four mt of cocaine per annum. As a result,

Table 1: Some recent transnational cocaine seizures involving Central Americans

Date	Location	Nationality	Quantity	Details
4 January 2004	El Salvador	Guatemalan	1 kg	In a residence
10 February 2004	Madrid	Costa Rican	1 kg	In baggage
21 February 2004	Nicaragua	Guatemalan	116 kg	With car parts
23 February 2004	Madrid	Costa Rican	2 kg	In baggage
23 February 2004	Nicaragua	Guatemalan	6 kg	With car parts
28 February 2004	Nicaragua	Guatemalan	18 kg	At business
3 March 2004	Nicaragua	Guatemalan	39 kg	——-
6 April 2004	Venezuela	Nicaraguan	11 kg	In baggage
8 April 2004	El Salvador	Honduran	2 kg	Procured in Honduras, bound for United States
19 April 2004	Nicaragua	Honduran	7 kg	In bus
30 April 2004	Nicaragua	Honduran	7 kg	In bus
1 May 2004	Nicaragua	Honduran	33 kg	Two arrested
10 May 2004	El Salvador	Guatemalan	< 1 kg	Procured in Colombia
12 May 2004	Nicaragua	Honduran	3 kg	With Nicaraguan
21 May 2004	Venezuela	Costa Rican	< 1 kg	Swallowed
3 June 2004	Nicaragua	Guatemalan	30 kg	With Nicaraguan
19 August 2004	Managua	Guatemalan	100 kg	Commercial road vehicle
28 August 2004	Nicaragua	Guatemalan	1.7 mt	With one Colombian
9 September 2004	Barcelona	Salvadoran	2 kg	Sourced in Guatemala
4 October 2004	Madrid	Salvadorian	1 kg	Body carry
5 October 2004	Spain	Salvadorian	3 kg	Via Guatemala
10 December 2004	Madrid	Guatemalan	3 kg	From Guatemala
1 January 2005	Argentina	Costa Rican	2 kg	—-
15 January 2005	Honduras	Salvadorian	1 kg	With 2 Hondurans
17 January 2005	Madrid	Salvadorian	2 kg	Via Guatemala
2 March 2005	Portugal	Panamanian	2.5 kg	With 2 Portuguese
5 April 2005	Madrid	Nicaraguan	1.5 kg	From Nicaragua
13 April 2005	Madrid	2 Guatemalans	2 kg	Destined for Netherlands
13 April 2005	Barcelona	Salvadoran	1.5 kg	Sourced in Panama
15 April 2005	Madrid	Guatemala	1 kg	Swallowed
3 June 2005	Madrid	Guatemala	4 kg	In baggage
12 June 2005	Barcelona	Guatemala	2 kg	——
17 June 2005	Frankfurt	Costa Rican	11 kg	With 2 Germans
30 January 2006	Madrid	Salvadoran	1 kg	Sourced in Peru
2 Febuary 2006	Madrid	Salvadoran	2 kg	With Colombian and Spaniard
24 March 2006	Madrid	Salvadoran	2.5 kg	Sourced in Dominican Republic

Source: UNODC Major Seizures Database

Street gangs and international drug trafficking

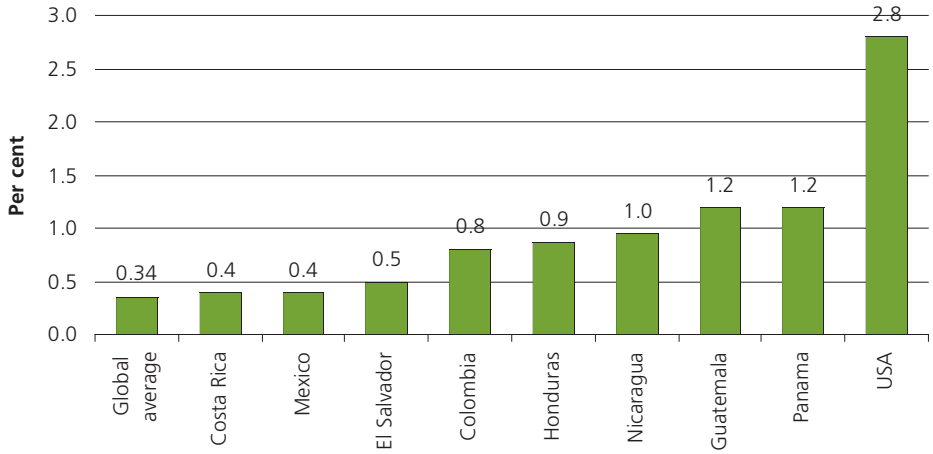
While street gangs are universally associated with drug dealing, the relationship between these groups and the traffickers is in need of more investigation. Much has been made of the possible connection between Central America's street gangs, or maras, and related groups resident in the USA. During the civil wars that long afflicted the region, many Central Americans emigrated northward, settling in the slums of large cities like Los Angeles and Washington, DC. Here, youth became involved in street gangs (such as the 18th Street gang) and formed some of their own (such as Mara Salvatrucha). These groups spread to Central America after large numbers of gang members were deported following criminal convictions under the broadened provisions of the 1996 Illegal Immigration Reform and Immigrant Responsibility Act. Street gang members are key in drug distribution in the USA, and the presence of these youth in a drug transhipment zone raised the spectre of transnational drug networks arranged along gang lines.

But it does not appear that this potential has been realised. While mara members are certainly involved in distributing drugs to the small markets of their home countries, the gang members themselves appear to comprise a large share of this market. Most of the areas where gang members dominate are situated inland, away from the maritime channels that carry most of the drugs. Even if they were located on the coast, it is unclear what role they would play, given that street gangsters are unlikely to have advanced nautical skills. It is highly likely that mara members move small amounts of drugs through the post or via couriers, but they do not seem to have the capacity to assert themselves as a new order of drug cartels.

This example highlights many common points of confusion around the relationship between drugs, gangs, and organized crime. The term "drug gangs" is common parlance, but the relationship between street gangs and drugs is highly controversial. Research indicates that although drug dealing is common among street gang members, it is not generally the primary purpose of the gang. Since most gang members are drug users, they may become involved in drug dealing in the same way other drug users do – in order to finance their habit.[41] Street gangs are not simply profit-motivated organized crime operations. For their members, they provide surrogate families, a sense of identity, and a means of survival. They remain chiefly concerned with local matters – defending turf and fighting for "respect", often in ways that undercut the profits from their criminal activities. Most members are in their teens and early 20s, undereducated, and not too familiar with the world beyond their immediate neighbourhoods.

Another source of persistent confusion is the tendency to assume that groups bearing the same name respond to a common command structure. While Mara Salvatrucha gangs exist in both the USA and El Salvador and both trace their roots to the Rampart area of Los Angeles, there has been little evidence of coordinated activity. Indeed, even within a country, individual cliques of large umbrella gangs appear to operate with a great deal of autonomy. The same may apply to other organized crime groupings bearing a common name.

Fig. 9: Share of adults (aged 15 - 64) using cocaine in the last year, 2005 or latest year available



Source: UNODC Delta database estimations

large seizures made in this region are almost exclusively in transit, bound for the USA. This suggests that well organized groups control the bulk of the flow, and most shipments pass through the region intact.

The Mexican link

Today, Mexico is the premier gateway for cocaine entering the USA. According to US government estimates, roughly 90 per cent of the cocaine entering the country transits Mexico,[42] and three quarters of the cocaine seized entering the USA is apprehended along the land border with Mexico, particularly the border with Texas.[43] Making use of this gateway requires working with the Mexican criminal syndicates that control it.

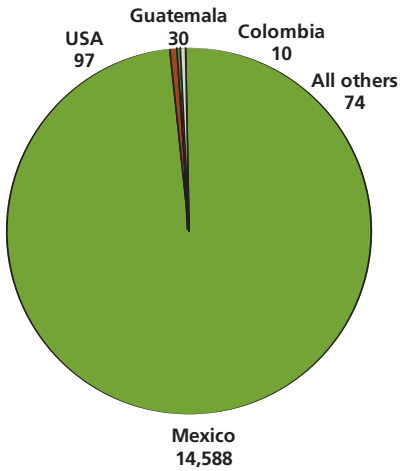
Inside Mexico, most of the drugs are controlled by one of several well-recognised "cartels", based in provinces along the border and along the southeast coast. Northern groups have fought for "plazas", or key border crossing areas, with syndicates forming around Tijuana, Juarez, Sinaloa, and the Gulf (Nuevo Laredo and Matamoros), for example. These battles have involved dedicated combat wings, such as the Zetas, a group of former Mexican army commandos employed by the Gulf cartel to terrorise rival groups and to assassinate prominent figures in law enforcement, government, and the press. At least 1,400 drug-related murders occurred in Mexico in 2006, most along the border with the USA,[44] with some sources placing the number as high as 2,500.[45]

Violence has recently spread to the southeast, where groups have formed in the primary docking locations for shipments entering the country. The size of the organizations is indicated by the seizure of assets and precursors. For example, in March 2007, a police raid in Michoacan resulted in the seizure of US$206 million in cash in a single location. In December 2006, just under 20 mt of pseudoephedrine, a key precursor in methamphetamine manufacture, was seized at Lazaro Cardenas seaport in the same province.

Given the highly competitive and violent nature of the Mexican criminal syndicates, it is difficult for foreigners to operate in this market, and 98 per cent of those arrested for drug trafficking in 2004 were indeed Mexican nationals.

Like the Colombian organizations, Mexican criminal syndicates often have a dynastic character, involving multiple family members at the top of the command structure. For example, the Tijuana cartel was also known as the Arellano-Felix organization, due to the prominent role this family has played in the leadership

Fig. 10: Nationalities of those arrested for drug trafficking in Mexico in 2004



Source: UNODC ARQ

of the group. But this should not obscure the fact that these are large and well organized criminal enterprises, not family businesses. These groups have proven resilient in the face of "decapitation", with deputies or enforcers taking control when prominent figures are arrested or killed. It has been argued that some Mexican syndicates have evolved from traditional hierarchical organizations to cell-based structures in response to enforcement efforts, with the Zambada-Garcia organization being a case in point.[46] Regardless, it appears that large and well-organised groups dominate trafficking in Mexico.

The presence of large groups is further demonstrated in the seizure figures. In the first nine months of 2005, at least five seizures of more than one mt of cocaine were made, two in Mexican waters, one at a seaport, one at a clandestine airstrip and one on the highway. There were also another dozen of more than 100 kg, worth at least a million US dollars in Mexico. These indicate highly resourced organizations. On the other hand, there were many lesser seizures, so smaller-scale trafficking also occurs. Without more comprehensive seizure data, it remains difficult to say with any precision what share of the total market these minor players command, both in Mexico and throughout the supply chain.

Finally, the high level of organization is demonstrated in the low levels of drug use in the country – only 0.4 per cent of Mexican adults used cocaine in 2002, barely above the global average of 0.3 per cent. Once in

Mexico, the allure of greater profits over the border is too strong for much cocaine to be left behind.

Destination USA

Unfortunately, the US government has so far not submitted the individual seizures information. Given the decentralised nature of US law enforcement, there may be administrative reasons for this omission. The US reports seizing 176 mt of cocaine in 2005, but the details of these seizures are not available. It is known that only 31 mt of this total were seized at the US arrival zones,[47] so the balance must have been apprehended internally or on international waters.

The USA does submit detailed information on the nationality of federal drug trafficking arrestees however. In 2004, there were 11,787 people arrested for cocaine trafficking in the USA by the federal authorities. Of these, 8,814 (75 %) were US citizens. Of the foreigners whose nationality was known, 1,410 (56 %) were Mexican nationals, 378 (15 %) were Colombian, and 286 (11 %) were from the Dominican Republic. Dominican cocaine and heroin wholesalers and retailers have long been an integral part of the distribution network of the Colombian drug trafficking organizations, so these two can arguably be combined. In essence, the two major groups of rival syndicates (Colombian and Mexican) comprise 82 per cent of the arrests of foreigners for cocaine trafficking. Only five Venezuelans were arrested, and the seven Central American countries combined make up 96 arrests (4 %).

If cocaine were sold and re-sold in transit countries, Venezuelans and Central Americans would be expected to play a greater role in delivering the drugs to their destinations. While their direct role in US markets has been diminished, the fact that Colombian nationals continue to comprise a significant portion of drug trafficking arrestees in the USA reinforces the idea that the flow of cocaine is controlled by multi-national groups with the capacity to source, transport, and market the drug. All this supports the notion that the bulk of the cocaine traffic to the USA is controlled by large organizations, not small networks or the invisible hand of the market.

In summary, while cocaine trafficking to the USA is not as centralised as it was in the days of the big cartels, it appears that the bulk of the flow remains in the hands of large and well-organized syndicates because:

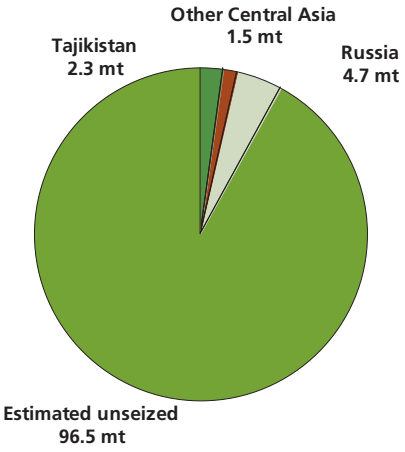
- Multi-ton seizures, worth hundreds of millions of dollars on arrival in the USA, are found at all points in the trafficking chain, often comprising a large share of national annual seizures.
- The trafficking chain appears to be divided between Colombian and Mexican syndicates, with an unknown share controlled entirely by Colombian groups.
- While transit country nationals are arrested with small amounts of drugs all over the world, they do not appear to be taking control of a significant share of the drug flow.
- Cocaine use prevalence is low in transit countries, indicating that most of the drugs (less seizures) are reaching their highest-value destination.

2.4 Heroin via Central Asia to the Russian Federation

In contrast to the trafficking of cocaine to the USA, the flow of heroin from Afghanistan through Central Asia to the Russian Federation appears to be less organised. There are several possible reasons for this. The flow is more recent, with the use of heroin in Russia only starting in the 1980s and picking up after the collapse of the former Soviet Union in 1991. The recurrent conflicts and poverty in Afghanistan have provided an opportunity for illicit production to become widespread. Poverty and conflicts in Central Asia have also hindered the development of defences against trafficking. But these factors may also have retarded the consolidation of the market – it is difficult to transport large shipments of drugs when scores of feuding warlords block the way and roads are in poor repair. As a result, it is only in recent years that there has been sufficient order for larger scale groups to coalesce.

Today, Afghanistan is the source of upwards of 90 per cent of the world's heroin, but most of this is produced in the southern and eastern parts of the country. This is known with some certainty because UNODC does comprehensive opium crop surveys in each of the major heroin producing countries. Although estimating trafficking flows is more complicated, there is a strong basis to believe that most of the heroin produced in Afghanistan moves out via Iran and Pakistan toward Europe on what is known as the Balkan Route. This is based not only on drug seizures but also cultivation patterns and interviews with drug market actors in Afghanistan. But while the exact amounts are subject to debate, about a fifth of the Afghan heroin produced, estimated to be about 100 mt in 2005, leaves the county to the North though Central Asia toward the Russian Federation. It would appear that only a small share of this flow is seized – around 10 per cent. If this were true, the seizure figures would be a less reliable gauge of the underlying undetected flows in this region than they are in the Americas. In particular, this lower interdiction ratio leaves open the possibility that large shipments are occurring under the protection of corruption, and that

Fig. 11: Heroin seizures in Afghanistan/Russia transit zone in 2005



Source: UNODC Delta database

seizures merely reflect the small-fry who attempt to operate without this protection. However, there are other indicators, such as local heroin use levels, that suggest the trafficking of the drugs through Central Asia is still highly disorganized.

The destination of most of these drugs is the Russian Federation, which has one of the highest rates of opiate use in the world. An estimated 2 per cent of the adult population annually use either heroin or one of the many homemade opiate concoctions. The best estimates place the heroin user population in Russia at about 1.6 million, consuming up to 80 mt of heroin each year,[48] worth some US$1.5 billion at wholesale level in Russia. This is about a tenth of the wholesale value of the US cocaine market.

The Afghan source

The internal market in Afghanistan appears to be comprised of at least four distinct levels:

- A market-driven population of 2.9 million farmers in 2006;
- A semi-regulated stratum of about a quarter of a million small-scale local traders.
- A small number of large-scale traders, moving large shipments to the border and, in some cases, beyond.
- A large number of small-scale cross-border traffickers.

As in Colombia, the cultivation of drug crops in Afghanistan is diffuse. Cultivation occurred in 28 of 34 provinces in 2006, involving 2.9 million of Afghanistan's 23 million people, or 13 per cent of the entire population.[49] It would be implausible to suggest that 13 per cent of the Afghan population are employed by, or even directed by, organized crime groups. Most farmers are not involved in refining the drug, and do not necessarily have direct contact with those who do.

Rather, widespread cultivation of opium is largely a product of the fact that fertile land is scarce in Afghanistan and alternative livelihoods are in short supply. A large share of the population subsists on small-scale agriculture. While opium poppy is more labour-intensive than other crops, labour is cheap in Afghanistan, and poppy yields eight times the income of a comparable area of wheat, the other main crop in the region. Some 448,000 households farmed 165,000 hectares of poppy in 2006, or just over a third of a hectare per household, producing an income of US$1,700 a year per family.[50] This is one-seventh the income earned by coca cultivating households in Colombia.[51]

As is the case everywhere, farmers require credit in order to survive, and one of the primary sources of these micro-loans appears to be opium traders. Landless farmers must lease the land they wish to till, and are even more credit dependent. Credit is extended by opium traders – including shopkeepers, bazaar traders, and itinerant traders – to be repaid in opium. Opium has become a kind of currency, with high value per weight, a means of storing value. While credit is not the only or even the dominant reason farmers cultivate opium, the credit dynamic is a key mechanism by which the market is ordered.

There are a lot of these creditors/opium traders, an estimated one for every thirteen farmers, or perhaps 225,000 traders in the country.[52] Research indicates that this group is not directed by organized crime, and there appears to be a lot of competition among them.[53] This is not to say the market is open to just anyone, however. Regional warlords sanctioned and taxed opium dealings in the past, and many of these men have assumed positions of local authority today. It is likely that only those authorised to deal and willing to pay for the privilege are allowed to operate.

The opium outputs consolidated by the small-scale traders are sold at one of many well-known bazaars to large-scale traders. These consolidated loads are moved to the border areas, where the drugs are either smuggled as opium or processed to become heroin in one of a number of laboratories.[54] In the first eight months of 2006, 248 heroin labs were dismantled in Afghanistan.[55] The "cooks" who convert the opium to heroin are largely Pashtun. In the north, they are often Shinwaris

originating near the Pakistan border, who were among the first to be exposed to the manufacture of heroin. They sell their skills to the highest bidder and thus operate as independent contractors. Most traders appear to leave the cross-border trafficking to specialist groups, who may also be of distinct ethnic groups (e.g. Baluchis in the South of Afghanistan; Uzbeks or Tajiks in the North).

In the North, in 2006, heroin prices varied by 50 per cent or more between the province of Balkh, located on the border with Uzbekistan (US$2,194/kg in March 2007), and the province of Badakhshan, located on the border with Tajikistan (US$3,500). This is despite the fact that a major road connects the two regions and they are a few hundred kilometres apart. It is unlikely that the real costs of transport between these two locations would justify a price differential of US$1,300/kg, particularly given that the quality of opium from Badakhshan is known to be better, and notwithstanding the threat of law enforcement in Kunduz.[56] This suggests that different stretches of border comprise distinct markets and that there is scant trading between them, or prices would quickly approach equilibrium. The lack of trading between nearby markets suggests high levels of regional control of supply, likely due to the domination of strong criminal actors. On the other hand, it could also be related to superior law enforcement in Balkh, which is not known to contain heroin labs, and the proximity of the higher value market of Iran.

It remains something of a puzzle that these large-scale traders appear to sell their stocks off in relatively small amounts to cross border traffickers. While some Afghan nationals do carry the drug across the border to Tajikistan, they do not appear to be involved in trafficking much further north than that. Afghanis of Tajik ethnicity lack the Russian language skills of their co-ethnics further north, which may inhibit their movement toward higher value markets. It may well be that no single organized crime group has sufficient international connections to consistently navigate all the local power structures that stand between Afghanistan and Russia, but the rewards will be great for the first groups to manage this feat. At present, however, it appears that once the drug leaves Afghanistan, the trafficking networks are small and market driven.

The Central Asian link

Seizures in Russia and Central Asia show that multi-ethnic trafficking groups do exist. But at least at the initial stages, cross-border ethnicity is key. Tajik or Uzbek Afghans smuggle the drugs almost exclusively to Tajikistan and Uzbekistan respectively. From there, the heroin may change hands to Kyrgyz or Kazakh nationals until reaching Kazakhstan, and thereafter Kazakh or Russian groups transport it to Russia. Russian nationals have been arrested in connection with large seizures as far south as Tajikistan, however. It would appear that Kyrgyz and Kazakh nationals are reliant on the Tajik and Uzbek groups to provide the drugs for further trafficking. In general, transport through the transit zone appears to be controlled by the nationals of the transit zone, with border crossings involving groups of both states.

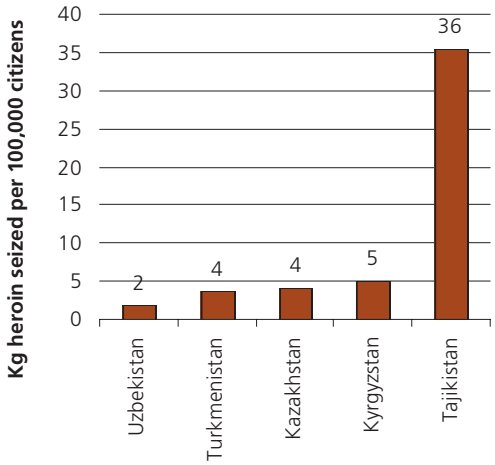
In addition, it appears that heroin is bought and sold multiple times before it reaches its destination in the Russian Federation. In other words, the movement of heroin toward Russia is largely a product of independent national agents pursuing the profits gained by transporting the drugs over a series of borders, not the grand design of a single organization orchestrating transport from Afghanistan to Russia.

Exiting Afghanistan to the North, the trafficker is presented with three countries to choose from: Tajikistan, Uzbekistan, and Turkmenistan. Based solely on seizure figures, it would appear that only Tajikistan is heavily utilized by traffickers, but there remains very little information on the situation in Turkmenistan.

It is not surprising that Tajikistan would provide an attractive target, due to the weakness of the state following its recent civil war (1992-1997) and the fact that it suffers from the lowest levels of human development in Central Asia, according to UNDP's 2006 Human Development Report. In addition, those who dominate the heroin producing areas of northern Afghanistan are primarily Tajik in ethnicity, and many Tajik villages in other parts of Afghanistan grow poppy. In 2005, Tajikistan seized 78 per cent of the heroin among the three border countries, and 60 per cent of that seized in Central Asia as a whole. These figures are all the more remarkable given that Tajikistan has only 6.5 million people, about 12 per cent of the regional population, so its per capita seizures are seven times higher than any other Central Asian country. While this suggests that the country is the preferred trafficking route, it also reflects a substantial achievement of Tajik law enforcement.

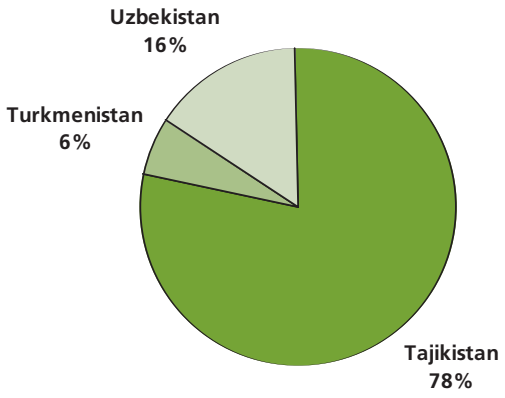
Further, Tajikistan still commands the bulk of regional drug seizures after two years of precipitous drops in the amount of drugs intercepted: in 2003, seizures were twice as high. Declines in seizures in Tajikistan after 2003 can be partly attributed to declines in opium production in northeastern Afghanistan: in neighbouring Badakhshan, production declined by 53 per cent in 2005. But it is also tied to the withdrawal of the Russian border troops, resulting in decreased interdiction efficiency. The Tajik Government cannot afford to fully replace these troops, which cost the Russian Govern-

Fig. 12: Kilograms of heroin seized per 100,000 citizens in 2005



Source: UNODC Delta database

Fig. 13: Breakdown of seizures among Central Asian countries bordering Afghanistan in 2005



Source: UNODC Delta database

ment some US$30 million per annum to maintain, and this is likely to increase the attractiveness of the country as a drug transhipment route even further.

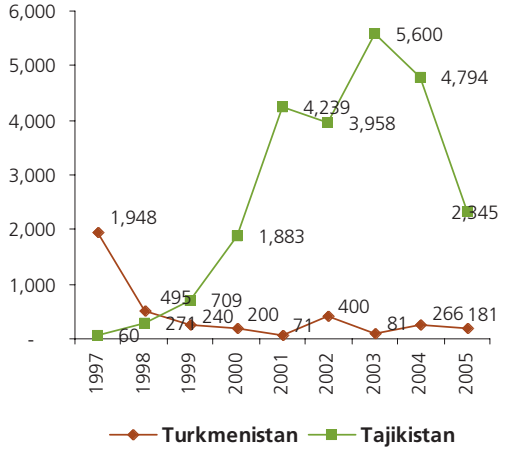
Turkmenistan offers a second likely routing, as it is the only Central Asian country bordering both Afghanistan and Iran. It lies just across the Caspian Sea, and it has historically enjoyed political relations with both the Taliban and the Northern Alliance. There have also been recent increases in production in northwestern Afghanistan, and it would be odd if production in Faryab, for example, were headed anywhere but directly over the border to Turkmenistan. Given these facts, it was not surprising when 78 per cent of heroin seized in Central Asia in 1997 was seized in Turkmenistan, or that some 4.6 mt of opium were seized in 1999,[57] or that during 1995-2000, more than 198 mt of precursor chemicals, mostly acetic anhydride,[58] were also seized. But in recent years, there has been little recorded activity, aside from sporadic opium seizures.

Turkmenistan is perceived to suffer from high levels of corruption,[59] and this is one possible explanation for the lack of seizures. But there is no reason to believe that this alleged corruption is a recent development in the country,[60] so it does not explain why seizures suddenly stopped. In addition, as will be discussed below, very few Turkmen have been arrested by the Russian authorities for trafficking into Russia. In the absence of other compelling data, it cannot be assumed that Turkmenistan is a major conduit for northern-bound heroin.

Uzbekistan, in contrast, has a stronger state, and shares a relatively short border with Afghanistan (137 km). Instead of entering the country directly, the drugs that do enter Uzbekistan seem to transit Tajikistan and Kyrgyzstan.[61] Low seizure levels have been reported in recent years, not much better than Turkmenistan, but more Uzbeks have been arrested in Russia.

From Tajikistan it appears that a large share of the drugs also transit Kyrgyzstan, a country almost as poor and also encountering instability. From Kyrgyzstan, the heroin must transit Kazakhstan, which also receives some traffic from Uzbekistan and, presumably, Turkmenistan.

Fig.14: Heroin seizures in Tajikistan and Turkmenistan, 1997-2005



Source: UNODC Annual Reports Questionnaire Data/Delta

Map 2: Possible drug trafficking routes in Central Asia toward the Russian Federation

Source: UNODC Regional Office for Central Asia

Kazakhstan is a member of a customs union with the Russian Federation, the Ukraine and Belarus. Consequently, any cargo entering these countries is considered domestic and is not subject to inspection so long as it remains sealed. The vast majority of those arrested for drug crimes in Kazakhstan are Kazakh, but these figures include possession and petty dealing offences. A large number of Russians, Kyrgyz, and Uzbeks are involved, highlighting the role of national groups in cross border operations. Importantly, few Tajik nationals are arrested there. Absent any other explanation, this opens the possibility that the Tajiks who dominate the early parts of the trafficking chain are not the same people that are arrested in large numbers in Russia.

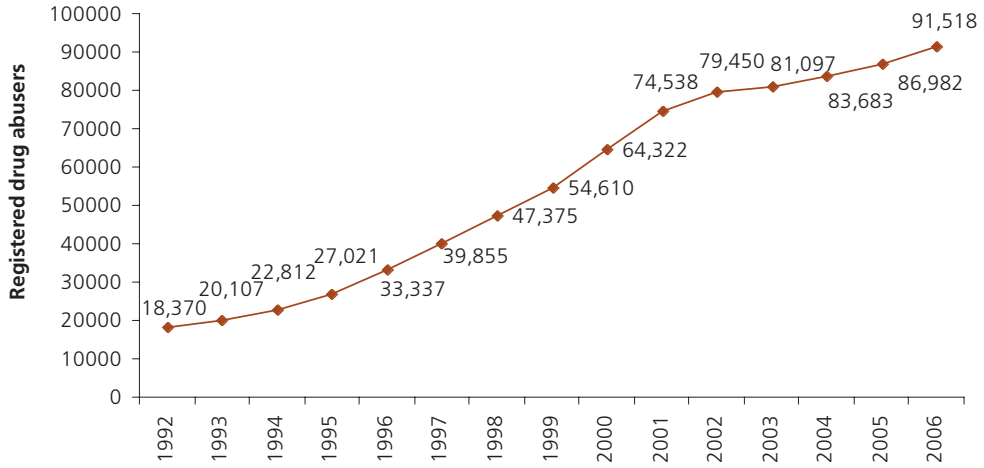
As in Colombia, the involvement of insurgent groups in the drug trade is a recurrent issue for much of the region, but the groups involved are not so well organised and have repeatedly been repressed. Historically, the best-known group in this regard is the Islamic Movement of Uzbekistan (IMU), a group largely destroyed during the overthrow of the Taliban. The IMU was centred on the Ferghana Valley, a fertile and densely populated region encompassing parts of Uzbekistan, Tajikistan, and Kyrgyzstan, which is both a well-known drug transhipment area and a font of political dissent. The timing and nature of this group's attacks suggested close linkages with the drug trade, but even at the peak of its power, it did not appear to control trafficking north of Osh in Kygyzstan.[62] It is unlikely that such militant groups are a driving force behind the drug trade today.

The disorganization of the trade is reflected in the rapidly growing number of drug users in the

Fig.15: Nationalities of those arrested for drug crimes in Kazakhstan in 2006

Source: UNODC Regional Office for Central Asia

Fig. 16: Registered drug users in Kazakhstan, Kyrgyzstan, Tajikistan, and Uzbekistan



Source: UNODC Regional Office for Central Asia

Tajik/Kyrgyz/Kazakh corridor. Estimations of prevalence in Central Asia are based on the number of registered addicts or treatment patients. Known drug users are asked if they have been registered and this figure is used as a multiplier. However, given the uncertainties inherent in this technique, it is probably safest simply to rely on the raw registration figures themselves for trend analysis.

What registration data do show is a growing problem, indicating that, despite its lower sales value, some of the heroin headed toward the Russian Federation has been diverted to local markets. The number of registered users increased rapidly throughout the 1990s, though growing at a slower rate in the first years of this century.[63] Such a rise is to be expected when trafficking is conducted by a large number of independent actors utilising couriers who may be paid in kind rather than in cash, and reinforces the contention that trafficking in this region is relatively disorganized.

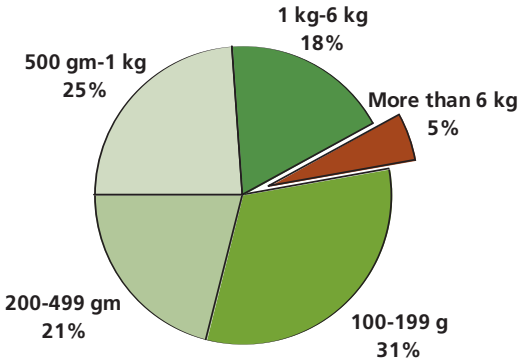
Destination Russia

The Russian government reported seizing 3,897 kg of heroin in 2004, and 4,674 kg in 2005. Of this, almost two-thirds (5.6 mt) were made in some 1,870 individual heroin seizures above 100 grams reported by the government of the Russian Federation over the two years. Only eight involved more than 100 kg. Almost 95 per cent involved amounts of less than 6 kg, the wholesale value of which was about US$10,000 in Afghanistan. In other words, these consignments were within the reach of relatively small criminal networks. Similarly, most of the seizures made in the Central Asian countries were minor.

The large (over 100 kg) seizures show no clear pattern, and thus were probably not the product of a single organization. Three were made in Moscow, but some were made in quite remote locations. The site of the largest, Tynda district, is deep in Siberia, north of the Chinese border – the town of Tynda has a population of about 40,000. Very few large seizures have been reported in the Central Asian countries in recent years.

Many of the traffickers arrested in the Russian Federation are citizens of Central Asian countries, particularly Tajik nationals, who are not necessarily ethnically Tajik. The Russian government reported 954 heroin seizures of over 100 grams to the UNODC between 1999 and

Fig. 17: Breakdown of quantities of heroin seized in 1870 large (100 g +) seizures in the Russian Federation, 2004-2005



Source: UNODC Individual Seizures Database

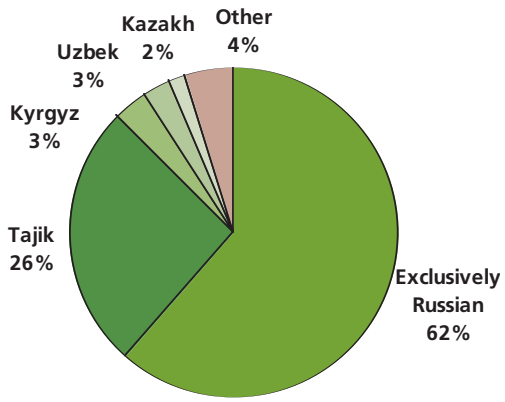
Table 2: Eight seizures of above 100 kg of heroin in the Russian Federation 2004-2005

Date	Location	Nationality	Quantity	Details
3 March 2004	Moscow	Russian Fed	178 kg	Sourced in Tajikistan
6 April 2004	Zubovo-Polyana	1 Russian Fed 2 Tajikistan 1 Ukraine 1 Uzbekistan	103 kg	Sourced in Tajikistan
26 April 2004	Tynda District	Czech Rep	536 kg	Concealed in clothing
21 June 2004	Ekaterinburg	——	150 kg	In freight from Uzbekistan
17 July 2004	Novosibirsk Region	——	237 kg	In beverages on train from Tajikistan
26 August 2005	Moscow	——	165 kg	——
29 August 2005	Moscow	——	156 kg	——
14 October 2005	Orenburg	——	362 kg	——

2004 in which the nationalities of the traffickers were specified. Of these, 586 cases (62 %) involved Russian nationals exclusively. A remarkable 252 involved Tajik nationals (26 %), operating either alone or in concert with traffickers of other nationalities. Smaller numbers of seizures involved nationals of Kazakhstan (16), Uzbekistan (29), the Kyrgyz Republic (31), and other national groups (40). No nationals of Turkmenistan were arrested in these records. Of seizures involving foreigners, Tajik nationals were present in more than two thirds of the cases. However, recall that few Tajik nationals were arrested in Kazakhstan. So while Tajik groups are important in both cross-border operations with Afghanistan and trafficking within Russia, it is possible that they do not control the heroin during the intermediate trafficking period.

Tajikistan is quite a distance from Russia, but a 2003 International Organization for Migration survey found that over a quarter of Tajik households have a member working abroad, an estimated 84 per cent of whom are in Russia, representing perhaps half a million people.[64] Many are employed as poorly paid labourers and some of them may serve as couriers to supplement their incomes. Though the poverty of ethnic Tajiks along the border with Afghanistan and in Russia seems to favour their involvement in drug trafficking, it does not appear that large Tajik groups control the entire drug trafficking chain, due the lack of Tajik nationals arrested in Kazakhstan.

Fig.18: Non-Russian involvement in large Russian heroin seizures, 1999-2004



Source: UNODC Individual Seizures Database

Of course, given the relatively small share of the total drug flow seized (probably less than 10 %) and the small size of the seizures, it is possible that these seizures and arrests comprise only those portions of the market that are not shielded by corruption. The prominence of Tajik nationals in the arrest figures could be a product of the targeting of this vulnerable group by law enforcement. Past research on drug markets in the Russian Federation has emphasised high levels of corruption, but has also demonstrated the essential disorganization of this market.[65] The Russian Ministry of Internal Affairs estimates that there are 450 criminal organizations in the country with about 12,000 members. This suggests an average group size of 26 members, and a national rate of eight organized crime members per 100,000 population. Only nine of these groups are said to have international links.[66] In 2005, the Russian Federal Drug Control Service attributed 14,415 out of 110,310 drug distribution cases to criminal groups (13 %), a share unchanged from the previous two years.[67] These estimates by Russian law enforcement authorities also support the notion that most of the market remains disorganized.

In summary, once heroin leaves Afghanistan for Russia, the international trafficking of the drug appears to be conducted by small groups, because:

- Most heroin seizures above 100 grams, both en route and in Russia, are small (less than 6 kg),

within the reach of small groups.

- The drugs appear to be sold and re-sold *en route*, with national groups controlling each link of the supply chain and very little Afghan presence in Russian markets.
- Arrest figures do not exclude the possibility that the drugs pass from Tajik hands to those of other groups and back to Tajik groups again, with Tajik nationals present in 26 per cent of major heroin seizures in Russia in 2004/2005.
- Heroin use rose steeply in Central Asia in the 1990s, indicating much of the drugs did not reach their highest value destination.

2.5 Tracking trafficking

The two examples discussed above highlight two extremes of a spectrum: on the one hand, the highly organized groups active in shipping multi-million dollar consignments of cocaine from Colombia to the USA; on the other, the many, uncoordinated players who, responding to market incentives, move heroin from Afghanistan to Russia. It appears that the two regions are vaguely converging, however – cocaine trafficking has become less organized since the days of the Medellin and Cali cartels, and the heroin trade, at least in the North of Afghanistan, is growing increasingly and is getting more organized. The potential for large organized crime groups emerging in Central Asia appears to be great, given the profits involved.

Similar analyses could be done for the movement of cocaine from Colombia to Europe, or the movement of heroin via the Balkan route, or any of a number of other trafficking patterns. The key limitation is the lack of standardised data. UNODC needs greater input from Member States to its individual seizures database, including detailed information on the nationalities of traffickers and the techniques employed. On this basis, important analysis of the world drug trafficking situation could be completed for the benefit of all.

Indeed, such an analysis need not be limited to drugs. Similar databases can be developed for trafficked persons, or firearms, or any other smuggled commodity to produce a standardised and quantified barometer of transnational criminal activity as a supplement to existing intelligence-based assessments. Issues for which there are currently no accurate global figures, such as human trafficking, are difficult to discuss without this basic data.

Determining the degree of organization is important in formulating policy. Despite the claim that there may be as many as 400 "baby cartels" operating in Colombia today, they are clearly not all of the same importance. If all were equal, each would be responsible for moving just 1.25 mt of cocaine every year, but individual seizures are made that are more than ten times that amount. There are clearly some major players running the cocaine market, and their removal from the scene could represent a pivotal setback for cocaine trafficking. Further, the process of combining the produce of nearly 70,000 farm families distributed among 23 provinces is highly reliant on the organization skills and field presence of the insurgent and paramilitary groups. If this link in the supply chain were disrupted, it could also be devastating for the cocaine market.

On the other hand, it would be difficult to imagine a similar scenario working in the de-centralised markets of Afghanistan and Central Asia. Here, the consolidation process from farmers to traffickers works by a sophisticated market network of traders and bazaars. While the drugs appear to come under the control of a limited number of players at the top of the Afghan market, this concentration does not appear to be fully exploited today, and consolidated loads appear to be broken down again in order to accommodate the realities of disorganized trafficking. Even removing the top Afghan drug lords may not prevent the decentralised traders from carrying on the cross-border trade with their equally decentralised trafficker counterparts. Drugs percolate through Central Asia, changing hands several times, indicating the flow is not centrally planned. There is no "head" of Central Asian trafficking to decapitate. Rather, detailed information is required about the market mechanisms that siphon heroin from Afghanistan to Russia. The incentives and deterrents informing this market must be studied and interventions created on this basis.

Much more could be done with this data if it were more complete. As with any international undertaking of this scale, the international efforts to combat drug trafficking need to be monitored in an objective, standardised way if lessons are to be learned from successes and failures. The myriad individual interdiction experiences of law enforcement agencies around the world need to be pooled for centralised analysis. This can be teamed with data on issues like prices and drug usage, existing but under-developed data sources, to create powerful models for probing the world of illicit markets.

One example of transnational information sharing and a coordinated approach to drug issues is the efforts being undertaken under the aegis of the "Paris Pact".[68] West and Central Asian and European countries affected by heroin trafficking from Afghanistan are now working together, with the support of UNODC, to coordinate their efforts to improve the quality of data and information, standardize data collection methods, and strengthen their respective analytical capacities in the field of counternarcotics. Efforts of this sort are essential to ensure a better understanding of drug trafficking flows, as well as to develop effective responses to transnational drug markets.

[1] Belser, P., "Forced labour and human trafficking: Estimating the profits." Geneva: ILO, 2005.

[2] 3 - 15 % range from 2002: United States General Accounting Office, International Trade: Critical Issues Remain in Deterring Conflict Diamond Trade, GAO-020678, June 2002, pp. 5-7. 1.5 - 2% range from 2007, various expert opinions, 2007.

[3] Small Arms Survey, Small Arms Survey 2002. Geneva: Small Arms Survey, 2002, p.3.

[4] UNODC, World Drug Report 2005. Vienna: UNODC. 2005. Belser, P., "Forced labour and human trafficking: Estimating the profits." Geneva: ILO, 2005. United States General Accounting Office, International Trade: Critical Issues Remain in Deterring Conflict Diamond Trade, GAO-020678, June 2002, pp. 5-7. Small Arms Survey, Small Arms Survey 2002. Geneva: Small Arms Survey, 2002, p.3.

[5] See for example:

Europol's EU Organized Crime Threat Assessment 2006
http://www.europol.europa.eu/publications/OCTA/OCTA2006.pdf

Criminal Intelligence Service of Canada's 2006 Annual Report on Organized Crime in Canada:
http://www.cisc.gc.ca/annual_reports/annual_report2006/document/annual_report_2006_e.pdf

United Kingdom Threat Assessment of Serious Organised Crime 2006/7: http://www.soca.gov.uk/assessPublications/downloads/threat_assess_unclass_250706.pdf

[6] United Nations General Assembly Resolution 55/25, United Nations Convention on Transnational Organized Crime. Annex I, Article 2, Subsection A, 8 January 2001.

[7] Europol, EU Organized Crime Threat Assessment 2006, op cit.

[8] Reuter, P., R. MacCoun, and P. Murphy. Money from crime: A study of the economics of drug dealing in Washington D.C, Santa Monica: Rand Corporation, 1990, p. 23.
http://www.rand.org/pubs/reports/2005/R3894.pdf

[9] For example, the 2007 Organised Crime Threat Assessment of the United Kingdom states that "most serious organised criminals, especially the more established and successful ones, are involved in more than one sector." United Kingdom Threat Assessment of Serious Organised Crime 2006/7, op cit, p. 13.

[10] Europol, EU Organized Crime Threat Assessment 2006, op cit.

[11] Pearson, G. and D. Hobbs, Middle Market Drug Distribution, Home Office Research Study 227, London, 2001, page vi.

[12] Beare, M. "Structures, Strategies, and Tactics of Transnational Criminal Organizations: Critical Issues for Enforcement" Paper presented at the Australian Institute of Criminology, Australian Customs Service, and Australian Federal Police Transnational Crime Conference, Canberra, March 9-10, 2000.

[13] United Kingdom Threat Assessment of Serious Organised Crime 2006/7, op cit, p.14

[14] Ruggiero, V. La Roba. Economie e Culture dell'Eroin. Parma: Pratiche Editrice, 1992.

[15] Hobbs, D. 'Going Down the Glocal: The local context of organised crime'. The Howard Journal, Vol 37, No 4, 1998, pp. 407– 2.

[16] See von Lampe, K. 'Proposal for a common European approach to assess organised crime'. European Union Specific Targeted Research Project.

http://www.assessingorganisedcrime.net/publications/AOC-DLV22-vD1.pdf

[17] To put this quantity in perspective, it is more cocaine than was seized annually in any but the top 10 cocaine-seizing countries in 2004.

[18] For the full story of how the Dutch authorities overcame this problem, see UNODC/World Bank, Crime, Violence, and Development: Trends, Costs, and Policy Options in the Caribbean. Washington, D.C.: World Bank, 2007.

[19] The Annual Reports Questionnaire (ARQ) is the mechanism through which Member States report to the United Nations on the drug control situations in their respective countries. The ARQ is integral to UNODC data collection activities. It is completed annually by member states and consists of three parts, (I) Legislative and administrative measures; (II) Extent, patterns and trends of drug abuse, and (III) Illicit Supply of Drugs.

[20] The Individual Seizure Database is comprised of data provided to UNODC by States in accordance with the provisions of article 18.1 (c) of the Single Convention on Narcotic Drugs, 1961, and article 16.3 of the Convention on Psychotropic Substances 1971. The international drug control treaties require States parties to furnish – in addition to information contained in the annual reports on the working of the treaties – reports of cases of illicit drug traffic which are important because of the light thrown on the sources from which drugs are obtained, the quantities involved, the methods employed by illicit traffickers or, in the case of the Convention on Psychotropic Substances, because of new trends. All Governments are invited to furnish reports on significant drug seizure cases to UNODC. The information collected includes details, as reported, on the type of drug, place and date of seizure, quantity seized, origin and destination of drug seized, means of transportation and the number and nationality of traffickers.

[21] Morrison, S. Approaching Organised Crime: Where Are We Now and Where Are We Going? Trends & Issues in Crime and Criminal Justice series No. 231. Canberra: Australian Institute of Criminology, 2002.

[22] Scalia, J. 'Federal Drug Offenders, 1999'. Washington, D.C.: Bureau for Justice Statistics, 2001.

[23] Statement of Assistant Secretary of Homeland Security Julie Meyers at a press conference announcing guilty pleas by members of the Cali Cartel on 26 September 2006.
http://www.usdoj.gov/ag/speeches/2006/ag_speech_060926.html

[24] The International Crisis Group places the figure at between 200 and 400. See ICG, War and drugs in Colombia. Brussels: ICG, 2005. In contrast, a Council on Foreign Relations report cites a figure of 82. See Christman, D. and J. Heimann, Andes 2020: A New Strategy for the Challenges of Colombia and the Region. Washington, D.C.: Council on Foreign Relations Center for Preventive Action, 2004, p. 21.

[25] The 200 ton figure is cited in Europol, Drugs 2004. The Hague: Europol, 2005. A figure of 250 mt was given at the EU workshop Drug Policing Balkan by Europol director Max-Peter Ratzel in Vienna on 31 May 2006.

[26] National Drug Intelligence Center, National Drug Threat Assessment 2006. Washington, D.C., United States Department of Justice, 2006.

[27] Ibid. The figure of 450 mt was also cited by the Direction Centrale de la Police Judiciaire / Police National in a presentation entitled The Traffic of Cocaine through the Maritime Channel in 2006, given by the French delegation to the Commission on Narcotic Drugs in March 2007.

[28] The U.S. Office of National Drug Control Policy (ONDCP) valued the market at US$35 billion in 2000. Since that time, prices have declined and use rates have been fairly stable. See Office of National Drug Control Policy, What America's Users Spend on Illegal Drugs 1988-2000, Washington, D.C.: Executive Office of the President, December 2001, p. 14.

[29] ONDCP, 'Transit zone interdiction operations'. ONDCP Fact Sheet, 2004.

[30] Statement of Michael Braun, Chief of Operations, United States Drug Enforcement Agency, before the House International Relations Committee, Subcommittee on the Western Hemisphere, 9 November 2005; National Drug Intelligence Centre, National Drug Threat Assessment 2007, op cit, p. 6.

[31] Government of Colombia, UNODC ARQ 2005 response.

[32] National Drug Intelligence Center, National Drug Threat Assessment 2006, op cit.

[33] International Herald Tribune, "Colombia's navy says cocaine seizure much smaller than thought," May 1, 2007.

[34] UNODC, Colombia: Coca cultivation survey 2005. Vienna: UNODC, 2006.

[35] See, for example, International Crisis Group, War and drugs in Colombia. Brussels: ICG, 2005.

[36] For example, in September 2002, T AUC leader Carlos Castaño-Gil and two other AUC members were indicted in the United States with five counts of drug trafficking. Also named in the indictment are AUC military commander Salvatore Mancuso and AUC member Juan Carlos Sierra-Ramirez. In November 2002, Fernando Blanco-Puerta and Elkin Arroyave-Ruiz, both allegedly AUC commanders, were arrested for their involvement in a multi-million dollar cocaine-for-arms deal. The Government of Mexico has stated that members of the AUC and the FARC are carrying out drug-trafficking activities in Mexico. In 2000, Castaño claimed the AUC received 70 per cent of its

revenues from the drug trade. See the statement of statement of Steven W. Casteel, Assistant Administrator for Intelligence, before the Senate Committee on the Judiciary, May 20, 2003.

[37] Latinnews.com, 'Have the Colombians taken over Mexico's drugs trade?'Security Update, 16 February 2006 http://www.latinnews.com/ldsu/LDSU8939.asp?instance=1

[38] Llana, S. 'Violent cartel culture now threatens Peru'. Christian Science Monitor, 3 April 2007.

[39] Webb-Vidal, A. 'South American cocaine trafficking operations shift toward Venezuela'. Jane's Intelligence Review, 1 May 2006.

[40] See recent editions of the International Narcotics Control Strategy Report. In November 2005, officials from the US Embassy in Guatemala told the Associated Press and Reuters that 75 per cent of the cocaine destined for the United States passes through Guatemala. See Lakshmann, I., 'Cocaine's new route: Drug traffickers turn to Guatemala'. Boston Globe, 30 November 2005 or Smyth, F. 'The untouchable narco-state: Guatemala's military defies the DEA'. Texas Observer, 18 November 2005. According to a 2002 congressional statement of Rogelio E. Guevara, Chief of Operations of the United States Drug Enforcement Administration, Guatemala is the primary landing zone for private aircraft trafficking cocaine from Colombia to the United States (making use of hundreds of concealed airstrips), and is also used as a transit point for cargo ships carrying cocaine destined for Europe.

[41] For a discussion of the various ways street gangs can engage in drug dealing, see Valdez, A. and S. Sifaneck, 'Getting high and getting by: Dimension of drug selling behaviours among American Mexican gang members in South Texas'. Journal of Research in Crime and Delinquency, Vol. 41, No. 82, 2004.

[42] Bureau of International Narcotics and Law Enforcement Affairs, International Narcotics Control Strategy Report 2007. Washington, D.C.: United States Department of State, 2007.

[43] National Drug Intelligence Center, National Drug Threat Assessment 2007, op cit.

[44] Ibid.

[45] 2007 INCSR, op cit.

[46] Becerra, O., 'Mexican cartels evolve in the face of cross-border crackdown'. Jane's Intelligence Review, November 2003.

[47] 2007 National Drug Threat Assessment, op cit.

[48] 80 mt were consumed in East Europe (European CIS countries), mainly Russia, in 2003 – see WDR 2005. The remaining 10 mt of heroin that are not seized are either consumed in Central Asia and the Ukraine, passed on to Europe via the Baltic countries or the Ukraine, or passed on to Europe via the Balkan route.

[49] UNODC, Afghanistan: Opium survey 2006. Vienna: UNODC, 2007.

[50] Ibid.

[51] UNODC, Colombia: Coca cultivation survey 2005. Vienna: UNODC, 2006.

[52] UNODC, The opium economy in Afghanistan: An international problem. Vienna: UNODC, 2003.

[53] UNODC and World Bank, Afghanistan's drug industry: Structure, functioning, dynamics, and implications for counter-narcotics policy. Kabul: UNODC and World Bank, 2006, p. 30.

[54] UNODC, The opium economy in Afghanistan, op cit.

[55] UNODC, Afghanistan: Opium survey 2006. op cit.

[56] Based on UNDOC prices of US$2194/kg in Badakhshan and US$3500/kg in Balkh in March 2007.

[57] UNODC, The Drug and Crime Situation in Central Asia: Compendium Analysis. Tashkent, Regional Office for Central Asia, 2003.

[58] UNODC, Illicit Drugs Situation in the Region Neighboring Afghanistan and the Response of ODCCP. New York: UNODC, 2002, p.13.

[59] Transparency International's Corruption Perceptions Index places Turkmenistan at the same level as Tajikistan (142nd place), with a rating of 2.2 on a scale of one to ten.

[60] Transparency International did not include Turkmenistan in its surveys of the 1990s.

[61] Statement of B. Abuduvohidov, Prosecutor General's Office, Uzbekistan, 15 March 2007.

[62] Cornell, S., 'The Narcotics Threat in Greater Central Asia: From Crime-Terror Nexus to State Infiltration?' China and Eurasia Forum Quarterly, Volume 4, No. 1, 2006, p. 37-67

[63] The lower increases over the last few years may also reflect the re-direction of Afghan opiate exports towards Iran and Pakistan, following strong increases in the southern provinces and smaller production increases in the north and north-eastern Afghanistan.

[64] Olimova, S. and I. Bosc, Labour migration from Tajikistan. Geneva: International Organisation on Migration, 2003.

[65] Paoli, L. 'The development of an illegal market: Drug consumption in post-Soviet Russia'. British Journal of Criminology, Vol 42, No 1 2002, pp. 21-39.

[66] Zorin, Y. Interview with Aleksandr Yelin, Deputy Chief of the Russian Ministry of Internal Affairs Department for Combating Organized Crime and Terrorism. Izvestiya, 15 February 2007.

[67] UNODC Regional Office for Russia and Belarus, Illicit drug trends in the Russian Federation 2005. Moscow: UNODC, 2006, p. 34.

[68] More than 55 countries and organizations met in Paris on 21 and 22 May 2003 at a Ministerial Conference on Drug Routes from Central Asia to Europe. On that occasion, they agreed on the need for stronger and better-coordinated measures to tackle the problem of trafficking of Afghan opiates through West and Central Asia and Europe. UNODC was invited to act as a clearing-house for information and to provide comprehensive analysis of action priorities in the most affected countries. The Paris Pact partnership was reviewed at the Second Ministerial Conference on Drug Trafficking Routes from Afghanistan, held in Moscow from 26 to 28 June 2006, where a call was made to strengthen joint actions and new targets for collective joint efforts were set.

3. STATISTICAL ANNEX

3.1 Production

3.1.1 Afghanistan

Fact Sheet - Afghanistan Opium Survey 2006[1]

	2005	Variation on 2005	2006
Net opium poppy cultivation	104,000 ha	+59%	165,000 ha
In per cent of agricultural land	2.30%		3.65%
In per cent of global cultivation	62%		82%
Number of provinces affected (total: 34)	26		28
Eradication	5,000 ha	+210%	15,300 ha
Weighted average opium yield	39.3 kg/ha	-6%	37.0 kg/ha
Potential production of opium	4,100 mt	+49%	6,100 mt
In per cent of global production	87%		92%
Number of households involved in opium cultivation	309,000	+45%	448,000
Number of persons involved in opium cultivation	2.0 million		2.9 million
In per cent of total population (23 million)	8.7%		12.6%
Average farm-gate price of dry opium at harvest time	US$ 138/kg	-9%	US$ 125/kg
Afghanistan GDP[2]	US$ 5.2 billion	+29%	US$ 6.7 billion
Total farm-gate value of opium production	US$ 0.56 billion	+36%	US$ 0.76 billion
in per cent of GDP	11%		11%
Total export value of opium to neighbouring countries	US$ 2.7 billion	+15%	US$ 3.1 billion
In per cent of GDP	52%		46%
Gross trafficking profits to Afghan traffickers	US$ 2.14 billion	+9%	US$ 2.34 billion
Household average yearly gross income from opium of opium growing families	US$ 1,800	-5%	US$ 1,700
Per capita gross income of opium growing farmers	US$ 280	-7%	US$ 260
Afghanistan's GDP per capita	US$ 226	+28%	US$ 290
Indicative gross income from opium per ha	US$ 5,400	-15%	US$ 4,600
Indicative gross income from wheat per ha	US$ 550	-4%	US$ 530

Cultivation and eradication

The area under opium poppy cultivation in Afghanistan increased by 59 per cent from 104,000 hectares in 2005 to 165,000 hectares in 2006. This is the largest area under opium poppy cultivation ever found in Afghanistan. As a result of this upsurge, the share of Afghanistan in global opium poppy cultivation increased from 65 per cent in 2005 to 82 per cent in 2006. Most of the opium poppy cultivation took place in the southern region of Afghanistan, which accounted for 62 per cent of the total cultivation. Only six out of

[1] The information in this section comes from the report on the Afghanistan Opium Survey 2006 (UNODC/Ministry of Counter Narcotics, Afghanistan, October 2006), and can also be found on the internet (http://www.unodc.org/unodc/en/crop_monitoring.html).

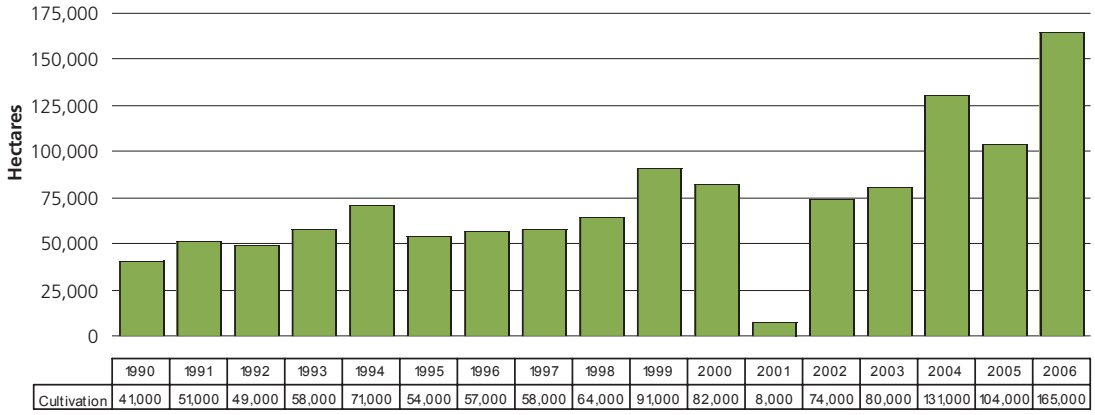
[2] Source : Afghan Government, Central Statistics Office, preliminary estimate.

Afghanistan's 34 provinces were free of opium poppy cultivation in 2006. In the 12 years since the start of the UNODC opium surveys in 1994, opium cultivation increased in eight years, and decreased in only four.

UNODC does not conduct a cannabis cultivation survey in Afghanistan. However, based on observations made during the annual opium survey, the area under cannabis cultivation in 2005/2006 was estimated at about 50,000 hectares compared to 30,000 hectares in 2004.

In 2006, a total of 15,300 hectares of opium poppy fields were eradicated by Afghan authorities. This is roughly 8 per cent of the area under opium poppy cultivation, up from 5 per cent in 2005. Overall, two thirds of cultivated opium poppy in each village was left standing after the eradication teams had carried out their activities.

Afghanistan, opium poppy cultivation (hectares), 1990 to 2006



	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Cultivation	41,000	51,000	49,000	58,000	71,000	54,000	57,000	58,000	64,000	91,000	82,000	8,000	74,000	80,000	131,000	104,000	165,000

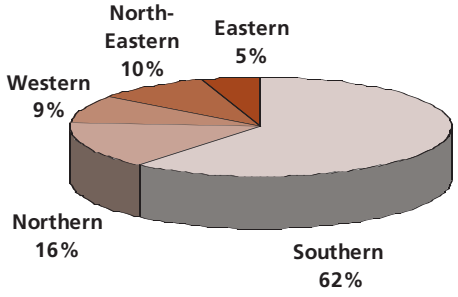
Afghanistan, regional distribution of opium poppy cultivation (ha), 2005 to 2006

Region	2005 (ha)	2006 (ha)	Change 2005-2006	2006 as % of total
Southern	46,147	101,900	+121%	62%
Northern	28,282	22,574	-20%	14%
Western	16,543	16,615	0%	10%
North-Eastern	8,734	15,234	+74%	9%
Eastern	4,095	8,312	+103%	5%
Central	106	337	+218%	0%
Rounded Total	104,000	165,000	+59%	100%

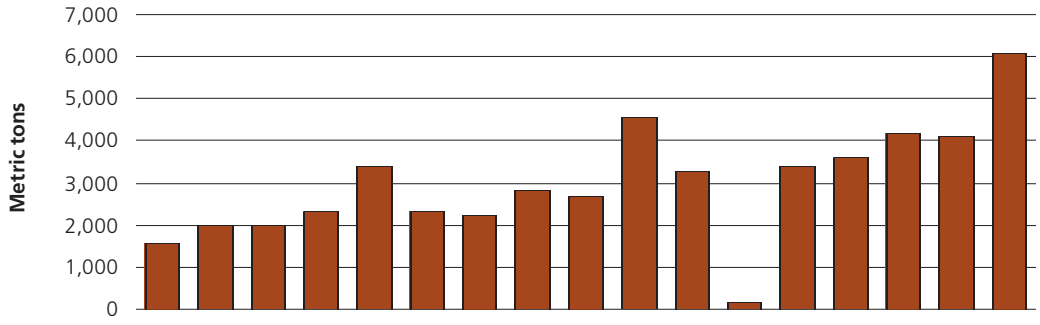
Production

In 2006, the average opium yield per hectare was slightly lower than in 2005. The increase in potential opium production by 49 per cent was therefore less pronounced than the increase for cultivation. In 2006, 6,100 metric tons of opium were produced, out of which 62 per cent were produced in the southern region of the country. Opium production in Afghanistan accounted for 92 per cent of the global opium production.

Afghanistan, potential opium production by region (mt), 2006



Afghanistan, potential opium production (metric tons), 1990 to 2006



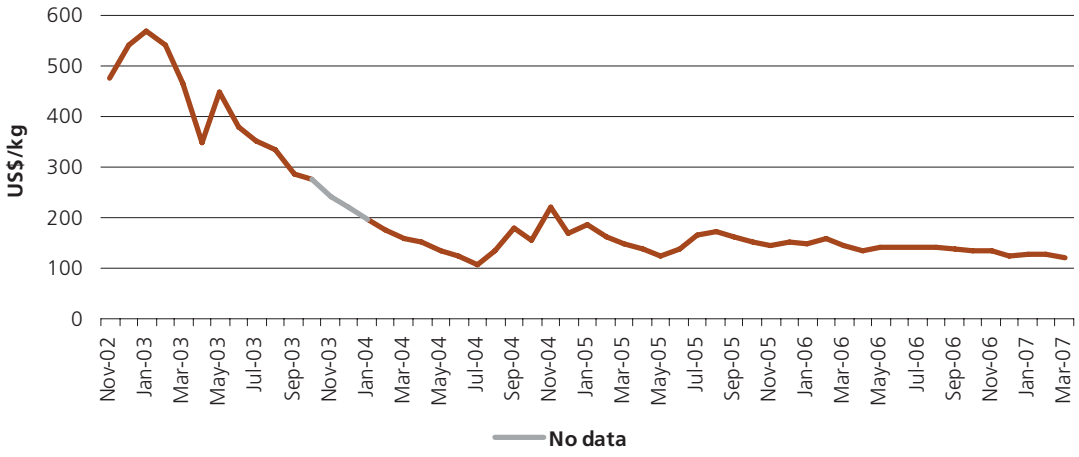
	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Production	1,570	1,980	1,970	2,330	3,416	2,335	2,248	2,804	2,693	4,565	3,276	185	3,400	3,600	4,200	4,100	6,100

Prices

Despite the strong increase in production, farm gate prices at harvest time in 2006 were only slightly lower than in 2005. On average, farmers fetched US$ 94/kg for fresh opium and US$ 138/kg for dry opium. During 2006, trader prices for dry opium were relatively stable.

The strong regional price differences observed at the beginning of 2006, with low prices in the northern and southern regions and high prices in the eastern region, became less pronounced towards the end of the year. The overall trend was downward.

Afghanistan, farm-gate prices for dry opium (US$/kg), 2002 to 2007

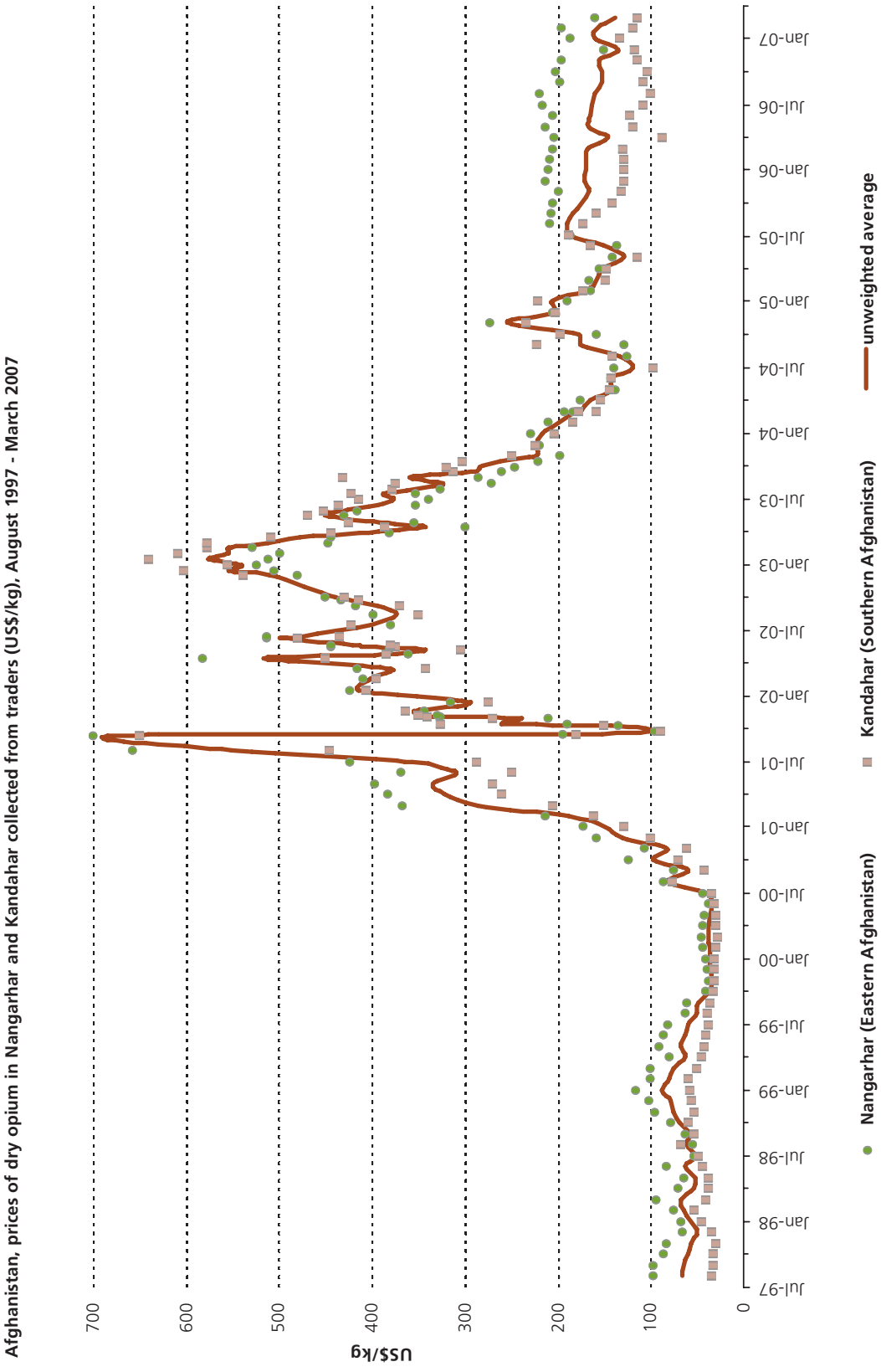


Farm gate value

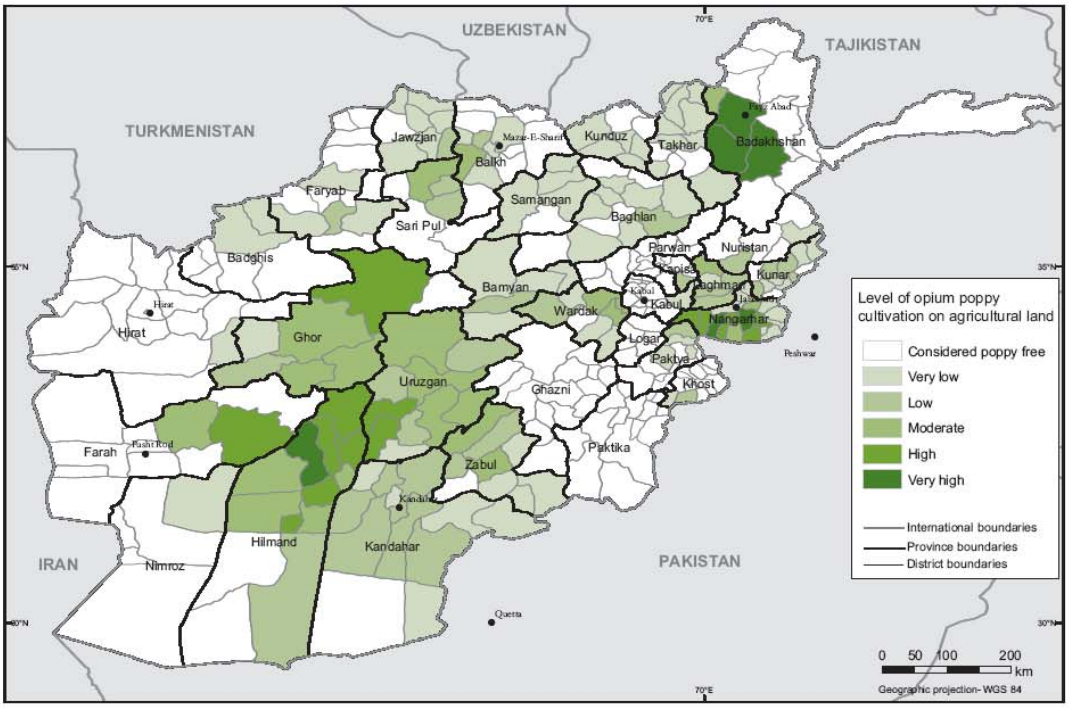
The farm gate value of the opium harvest amounted to US$ 0.76 billion, or 11 per cent of licit GDP, in 2006. The total potential value of Afghanistan's 2006 opium harvest accruing to farmers, laboratory owners and Afghan traffickers reached about US$ 3.1 billion. This is almost half the size of the country's licit GDP of US$ 6.7 billion, or 32 per cent of the overall economy (including the opium sector).

Households involved

An estimated 448,000 households, or 2.9 million persons, were involved in opium poppy cultivation in 2006. This is equivalent to 12.6 per cent of Afghanistan's total population of 23 million.

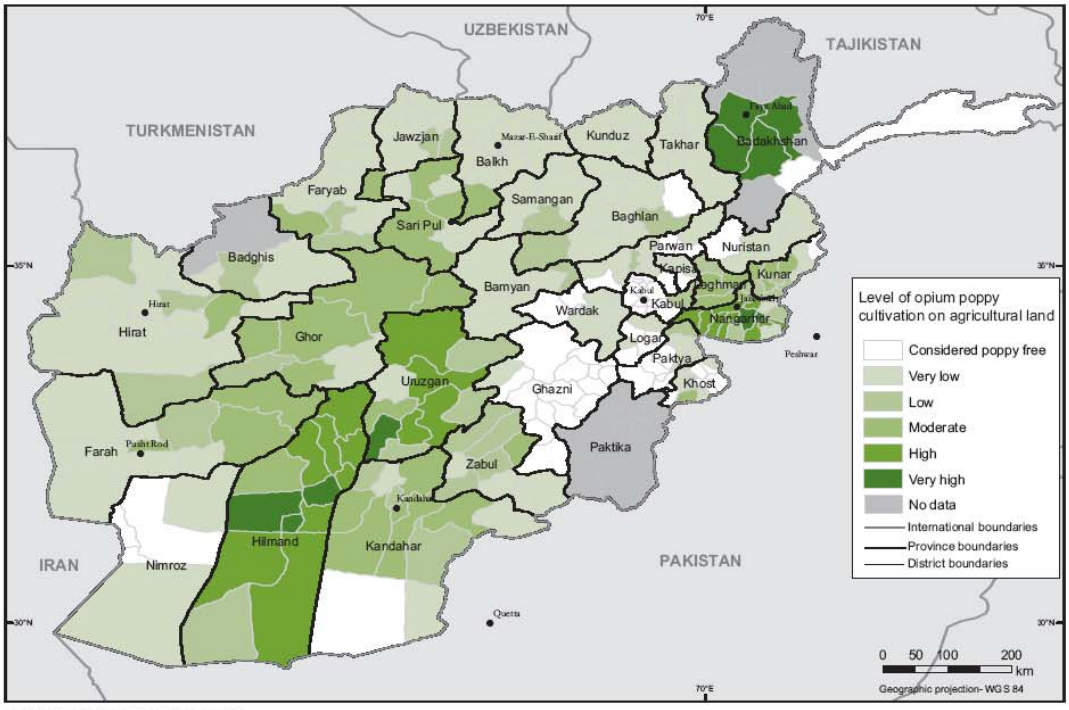

Afghanistan, prices of dry opium in Nangarhar and Kandahar collected from traders (US$/kg), August 1997 - March 2007
US$/kg
700
600
500
400
300
200
100
0
Jul-97
Jan-98
Jul-98
Jan-99
Jul-99
Jan-00
Jul-00
Jan-01
Jul-01
Jan-02
Jul-02
Jan-03
Jul-03
Jan-04
Jul-04
Jan-05
Jul-05
Jan-06
Jul-06
Jan-07
Nangarhar (Eastern Afghanistan)
Kandahar (Southern Afghanistan)
unweighted average

Opium poppy cultivation in Afghanistan, 2003 (at district level)



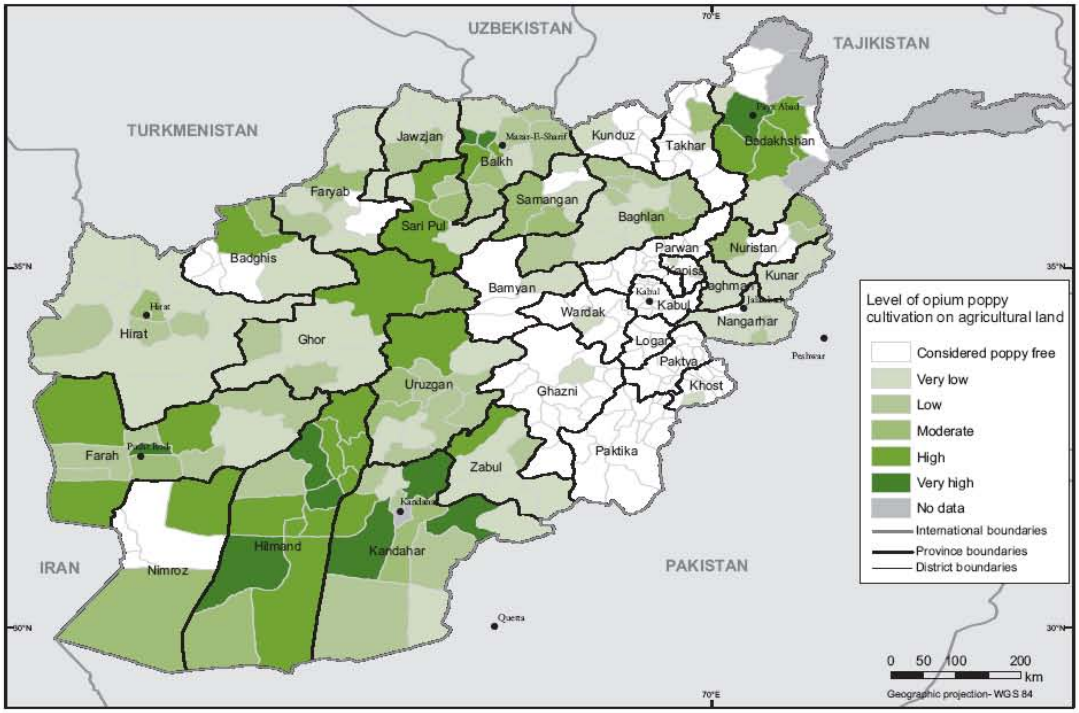
Source: MCN - UNODC Afghanistan Opium Survey 2003
Note: The boundaries and names shown and the designations used on this map do not imply official endorsement or acceptance by the United Nations.

Opium poppy cultivation in Afghanistan, 2004 (at district level)



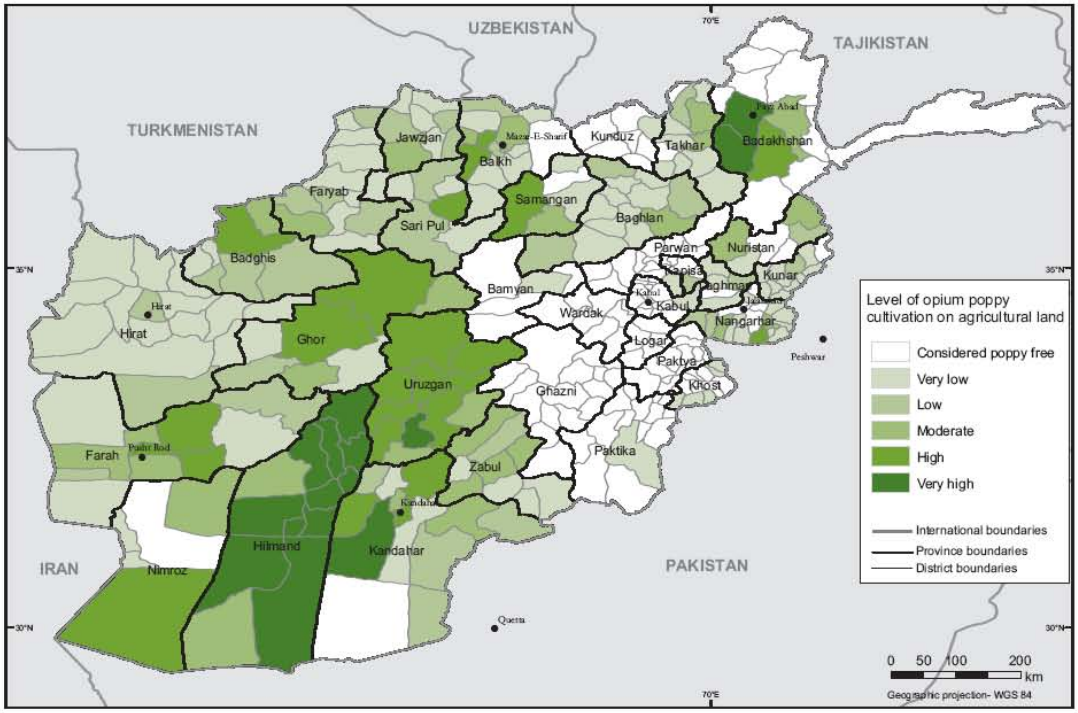
Source: MCN - UNODC Afghanistan Opium Survey 2004
Note: The boundaries and names shown and the designations used on this map do not imply official endorsement or acceptance by the United Nations.

Opium poppy cultivation in Afghanistan, 2005 (at district level)



Source: MCN - UNODC Afghanistan Opium Survey 2005
Note: The boundaries and names shown and the designations used on this map do not imply official endorsement or acceptance by the United Nations.

Opium poppy cultivation in Afghanistan, 2006 (at district level)



Source: MCN - UNODC Afghanistan Opium Survey 2006
Note: The boundaries and names shown and the designations used on this map do not imply official endorsement or acceptance by the United Nations.

3.1.2 Bolivia

FACT SHEET - Bolivia Survey 2006[3]

	2005	Variation on 2005	2006
Coca cultivation	25,400 ha	+8%	27,500 ha
Of which in the Yungas of La Paz	18,100 ha	+4%	18,900 ha
in Chapare	7,000 ha	+19%	8,300 ha
in Apolo	300 ha	0%	300 ha
Of which permitted by Bolivian law 1008	12,000 ha		12,000 ha
Average annual sun-dried coca leaf yield			
in Chapare	2,764 kg/ha		2,764 kg/ha
in the Yungas of La Paz[4]	1,317 kg/ha		1,317 kg/ha
in Apolo	820 kg/ha		820 kg/ha
Production of sun-dried coca leaf	43,000 mt	+12%	48,000 mt
Potential production of cocaine HCl	80 mt	+18%	94 mt
In per cent of the global cocaine production	8%		10%
National weighted average farm-gate price of sun-dried coca leaf (outside state market)	US$ 4.3/kg	-9%	US$ 3.9/kg
Average farm-gate price of sun-dried coca leaf in Chapare	US$ 4.1/kg	-22%	US$ 3.2/kg
Total farm-gate value of sun-dried coca leaf production	US$180 million	0%	US$ 180 million
GDP[5]	US$ 8.4 billion		US$ 8.7 billion
Farm-gate value of coca leaf production in per cent of GDP	2.1%		2.0%
Value of agricultural sector	US$ 1.5 billion		US$ 1.37 billion
Farm-gate value of coca leaf production in percent of value of 2003 agricultural sector	12%		13%
Reported eradication of coca bush	6,073 ha	-17%	5,070 ha
Reported seizure of coca leaves	900 mt	+52%	1,364 mt
Reported seizure of cocaine base	10,152 kg	+26%	12,779 kg
Reported seizure of cocaine hydrochloride	1,309 kg	0%	1,309 kg

[3] The information in this section comes from the report on Coca Cultivation in the Andean Region (UNODC/Governments of Bolivia, Colombia and Peru, 2007), and can also be found on the internet (http://www.unodc.org/en/crop_monitoring.html).

[4] Figures for 2005 were updated based a new UNODC study on coca leaf yield in the Yungas of La Paz.

[5] Source: INE 2006.

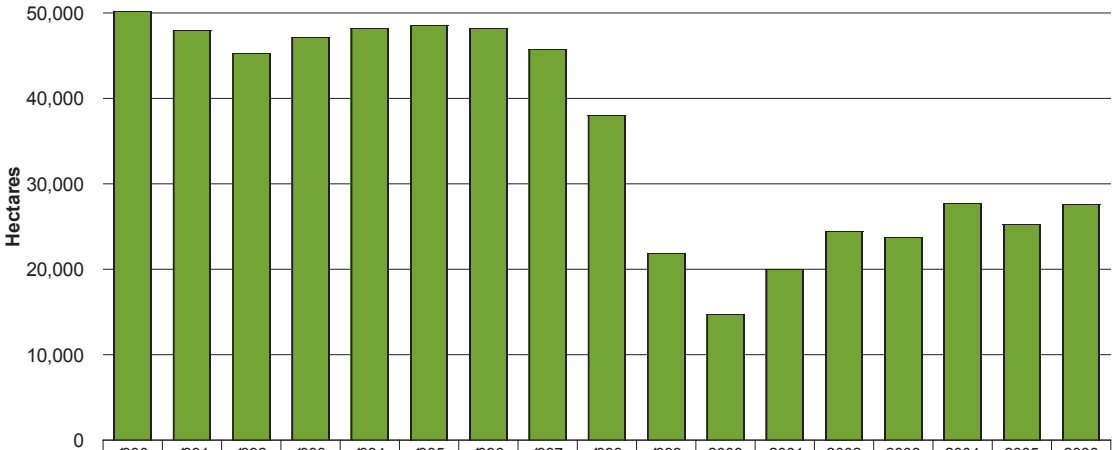
Cultivation and eradication

Although Bolivia is the third largest producer of coca leaf in the world, it still trails far behind the world's largest producer, Colombia. In 2006, Bolivia accounted for 18 per cent of global coca cultivation. The area under coca cultivation increased by 8 per cent compared to 2005, and reached 27,500 hectares in 2006. This increase offsets the decrease achieved between 2004 and 2005, when the coca cultivation area declined by 8 per cent from 27,700 hectares to only 25,400 hectares. Overall, the area cultivated with coca bush in Bolivia remained much lower than in the early and mid-1990s, when coca was grown on over 45,000 hectares.

As in previous years, the Yungas of La Paz constituted the largest coca cultivating region in Bolivia with over two thirds of the total area under coca bush, followed by Chapare, with just under one third of the area. Still, most of the total coca area increase of 2,100 hectares took place in Chapare, where the coca cultivated area increased by 19 per cent, or 1,300 hectares, whereas the Yungas of La Paz accounted for only 800 hectares of the total increase.

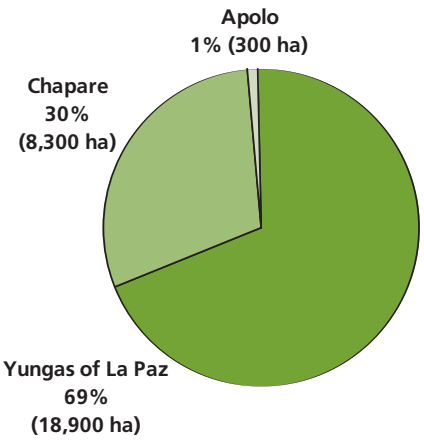
The Government of Bolivia reported a decrease of the area eradicated by 17 per cent to 5,070 hectares in 2006. Practically all the eradication took place in the region of Chapare.

Bolivia, coca cultivation (hectares), 1990 to 2006



	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Cultivation	50,300	47,900	45,300	47,200	48,100	48,600	48,100	45,800	38,000	21,800	14,600	19,900	24,400	23,600	27,700	25,400	27,500

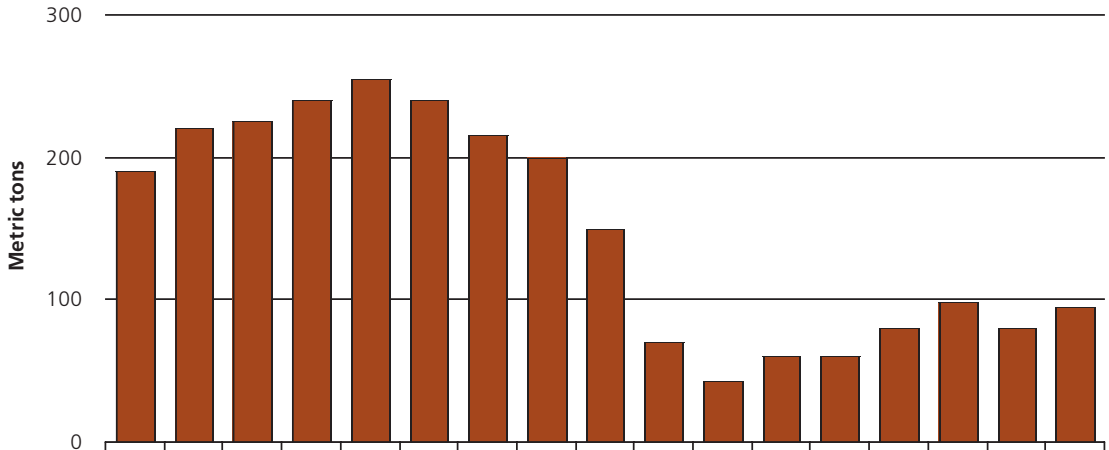
Bolivia, coca cultivation by region, 2006



Production

Based on new field research on the coca leaf yield in the Yungas of La Paz, the potential production of cocaine HCl in Bolivia in 2006 was 94 metric tons, an increase by 18 per cent compared to the revised production estimate of 80 metric tons in 2005. The increase in cocaine production is much more pronounced than the coca cultivation increase due to the fact that most of the area increase took place in Chapare, where coca leaf yields are more than twice the amount recorded in the Yungas of La Paz.

Bolivia, potential cocaine production (metric tons), 1990 to 2006



	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Production	189	220	225	240	255	240	215	200	150	70	43	60	60	79	98	80	94

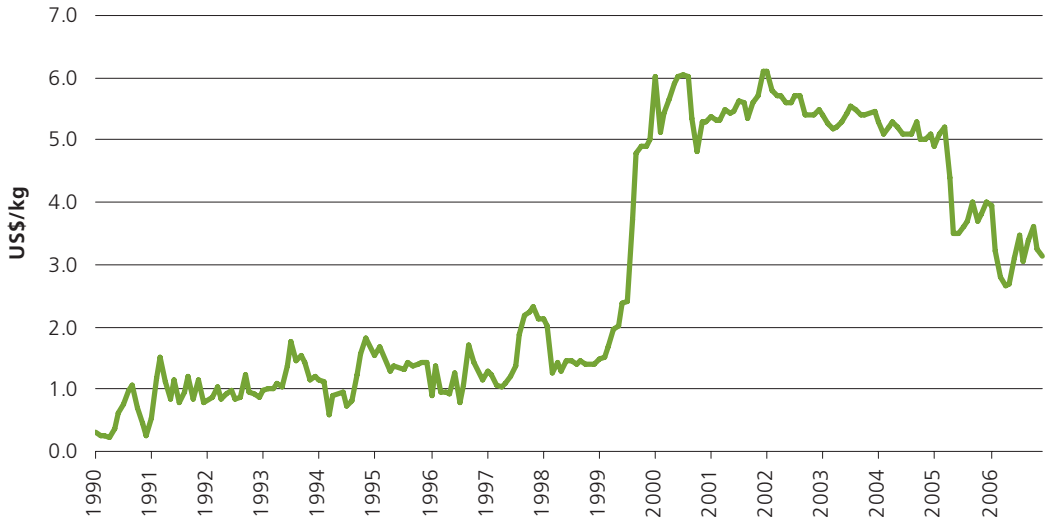
Figures for 2004 and 2005 were updated based a new UNODC study on coca leaf yield in the Yungas of La Paz.

Prices

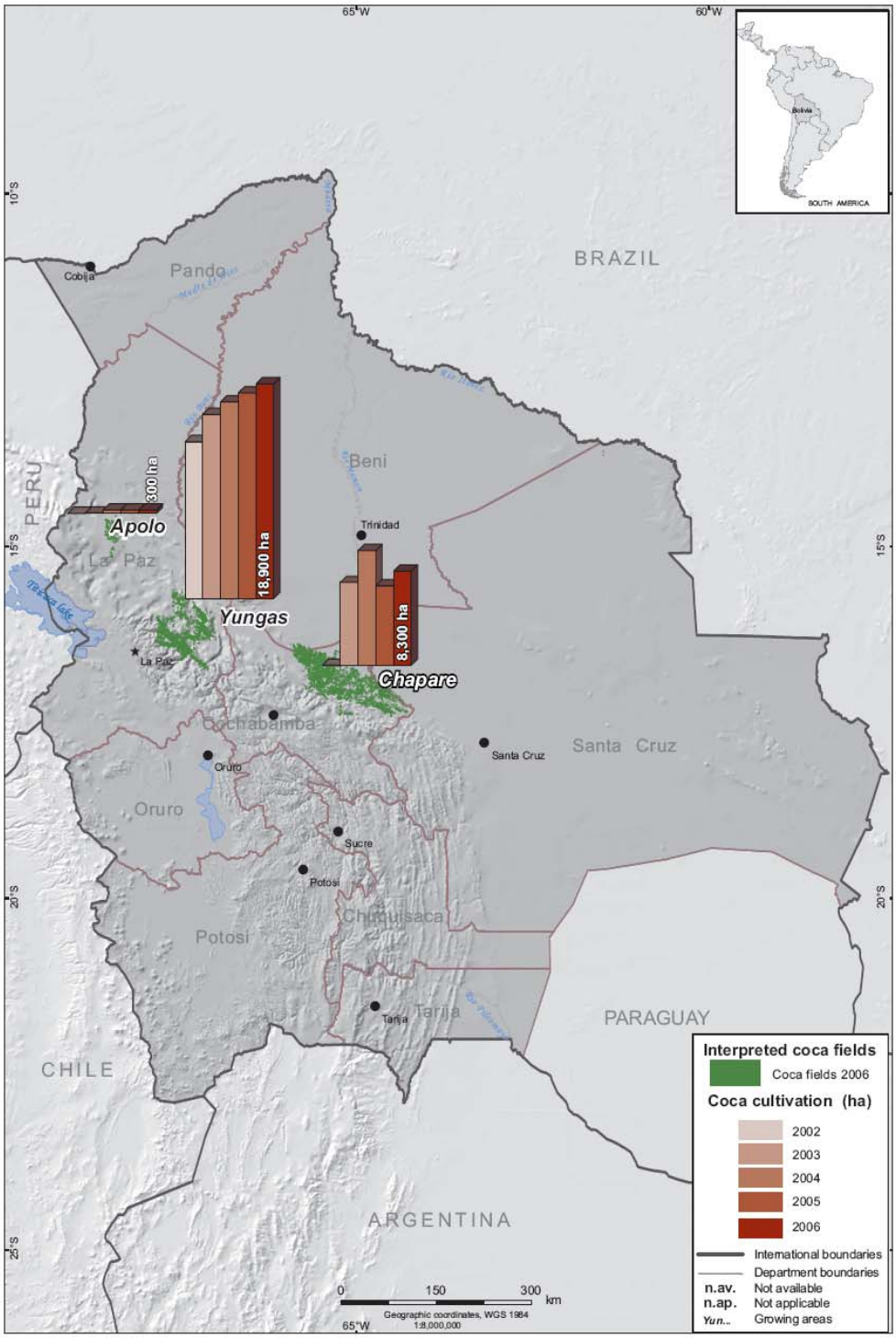
In Bolivia, farm-gate prices for sun-dried coca leaf fell by 9 per cent to a national average of only US$3.9/kg, which is well below the price level reached during the period 2000 to 2004.

The even sharper decrease in price of 22 per cent in Chapare can be attributed to the greater availability of coca leaf on the illicit market due to higher production, despite government efforts to prevent coca leaf trading outside the market authorized by the Government. Prices for coca leaf in Bolivia continued to be considerably higher than in neighbouring Peru.

Bolivia, farm-gate prices for sun-dried coca leaf in Chapare region (US$/kg), 1990 to 2006



Bolivia, coca cultivation by region, 2002 - 2006



Source: Government of Bolivia - National monitoring system supported by UNODC.
The boundaries and names shown and the designations used on this map do not imply official endorsement or acceptance by the United Nations.

3.1.3 Colombia

FACT SHEET - Colombia Survey 2006[6]

		2005	Variation on 2005	2006
Net coca cultivation (rounded total)		86,000 ha	-9%	78,000 ha
Of which	Meta-Guaviare region	25,970 ha	-21%	20,540 ha
	Pacific region	17,650 ha	+7%	18,810 ha
	Putumayo-Caqueta region	13,950 ha	+23%	17,220 ha
	Central region	15,630 ha	-22%	12,130 ha
	Elsewhere	12,570 ha	-27%	9,170 ha
Reported cumulative aerial spraying of coca bush		138,775 ha	+24%	172,025 ha
Reported manual eradication of coca bush		31,285 ha	+32%	41,346 ha
Average farm-gate price of coca paste		US$ 910/kg COP 2,109,000/kg	-3% -2%	US$ 879/kg COP 2,070,000/kg
Potential production of cocaine In % of world cocaine production		640 mt 65%	-5%	610 mt 62%
Average cocaine price (wholesale)		US$ 1,860/kg COP 4,315,000/kg	-5% -4%	US$ 1,762/kg COP 4,155,000/kg
Reported opium poppy cultivation		1,950 ha	-48%	1,023 ha
Potential opium latex production		59 mt	-48%	31 mt
Potential heroin production		2.5 mt	-48%	1.3 mt
Average farm-gate price of opium latex		US$ 230/kg	+3%	US$ 237/kg
Average heroin price (wholesale)		US$ 9,050/kg	+12%	US$ 10,103/kg
Reported seizures of cocaine		173,265 kg	-27%	127,326 kg
Reported seizures of heroin		745 kg	-41%	442 kg
Reported number of clandestine laboratories[7] destructed		1,953	+16%	2,270

Cultivation and eradication of coca

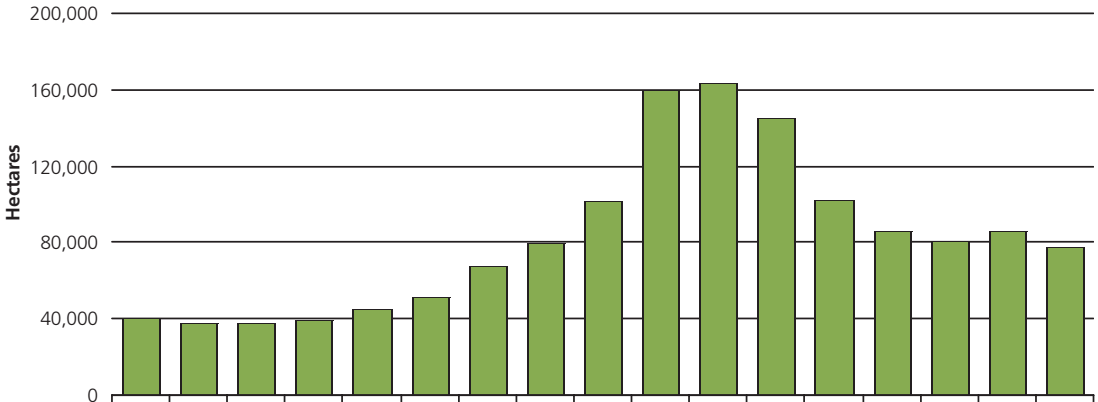
In 2006, Colombia remained the country with the world's largest coca growing area, which represented one half of the global area under coca bush. Coca cultivation in Colombia declined by 9 per cent from 86,000 hectares in 2005 to only 78,000 hectares in 2006. Overall, despite the increases and decreases observed in recent years, coca cultivation in Colombia has proven to be relatively stable at around 80,000 hectares since 2003.

Meta-Guaviare remains the largest cultivation region with almost 21,000 hectares of coca bush, or just over a quarter of the total coca cultivation area, closely followed by the Pacific and Putumayo-Caqueta regions. Considerable decreases in the Meta-Guaviare, Central and Orinoco regions in 2006 were partly offset by strong increases in the Putumayo-Caqueta region, once the largest cultivation region.

[6] The information in this section comes from the report on Coca Cultivation in the Andean Region (UNODC/Governments of Bolivia, Colombia and Peru, 2007), and can also be found on the internet (http://www.unodc.org/en/crop_monitoring.html).

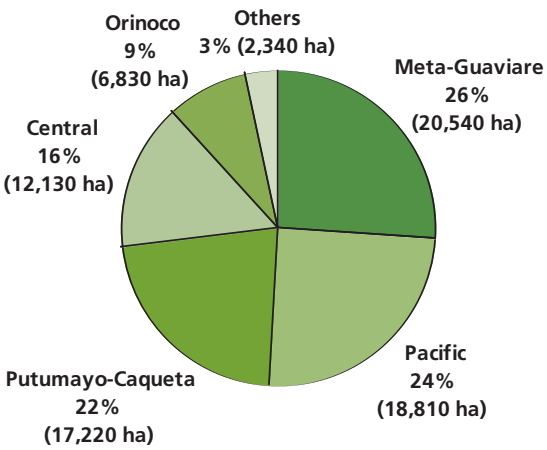
[7] Includes laboratories processing coca paste/base, cocaine HCl, heroin, morphine, potassium permanganate, and non-specified.

Colombia, coca cultivation (hectares), 1990 to 2006



	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Cultivation	40,100	37,500	37,100	39,700	44,700	50,900	67,200	79,400	101,800	160,100	163,300	144,800	102,000	86,000	80,000	86,000	78,000

Colombia, coca cultivation by region, 2006



In 2006, the Colombian authorities further intensified their eradication efforts, especially in higher yielding regions such as Meta-Guaviare, Orinoco and Putumayo-Caqueta. The area of coca bush eradicated reached a record level of over 213,000 hectares, which includes about 172,000 hectares of spraying and 41,346 hectares of manual eradication. The cumulative area eradicated in 2006 was 2.7 times larger than the net cultivation area, which indicates an intensity of eradication activities never reached before.

Cultivation and eradication of opium poppy

Colombia is one of the smaller opium cultivating countries and its contribution the world opium production is declining. Opium poppy in Colombia is mainly being cultivated on mountain sides in the south-west of the country. According to Government reports, the area cultivated with opium poppy continued to decline in 2006 and reached just over 1,000 hectares, a reduction by almost half compared to 2005. Eradication efforts of opium poppy remained intensive in comparison to the level of cultivation.

Production

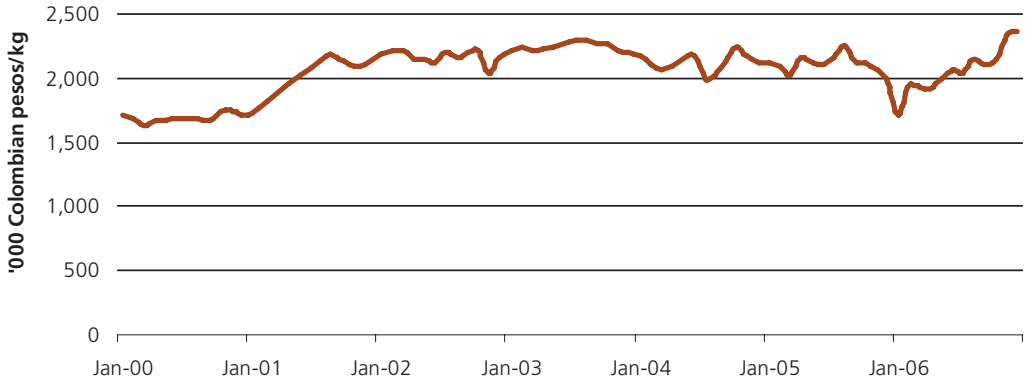
In 2006, the potential production of cocaine HCl in Colombia amounted to 610 metric tons, a decrease by 5 per cent or 30 metric tons compared to 2005. As a consequence of this decrease and simultaneous production increases in Bolivia and Peru, Colombia's share of the world cocaine production fell from 65 per cent in 2005 to 62 per cent in 2006.

Prices for coca paste, cocaine, and opium

Overall, prices for coca-related products have been remarkably stable over the last five years in the case of coca paste and for an even longer period in the case of cocaine HCl.

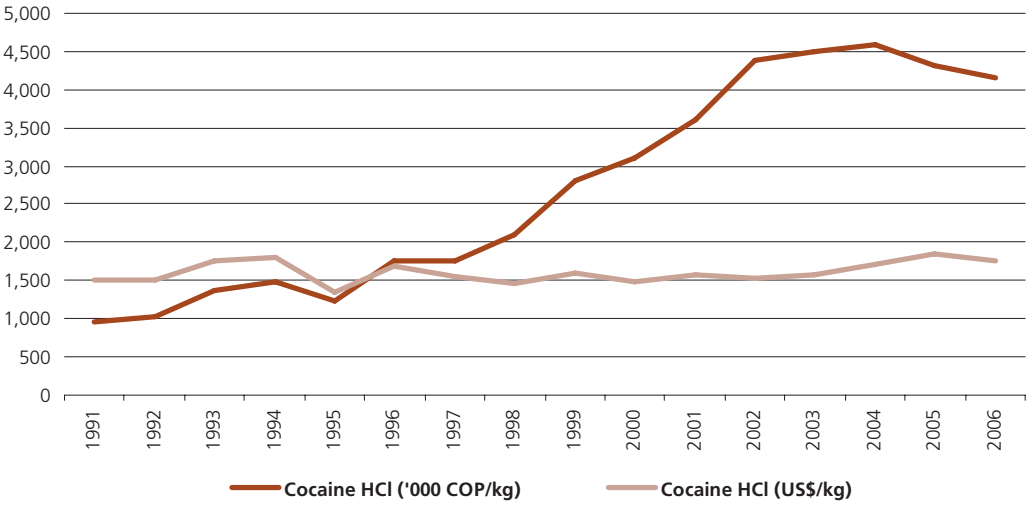
The annual average of the farm-gate prices for coca paste, the first derivate in the cocaine production chain, changed little compared to 2005. However, the annual average hides a price increase by 38 per cent from a five-year low of 1,714,000 Colombian pesos in January 2006 to 2,360,000 Colombian pesos in December 2006, which is the highest monthly average observed since the start of price monitoring in 2000. The monthly fluctuations in the price of coca paste can partly be attributed to the eradication campaigns.

Colombia, monthly farm-gate prices for coca paste ('000 COP/kg), 2000 to 2006



While wholesale prices for cocaine HCl in Colombian pesos fell for the second consecutive year, it was the first time in three years that it fell in US dollars. It is noteworthy that over the last 16 years, the national average cocaine HCl prices in US dollar terms have remained in a relatively narrow range between US$ 1,350 and US$ 1,860 per kg. As most of the cocaine HCl from Colombia is meant for export, US dollar prices for cocaine HCl may give a good insight into the dynamics of the international illicit drug market, as far as prices are concerned.

Colombia, annual wholesale prices for cocaine HCl (US$ and '000 COP), 1991 to 2006

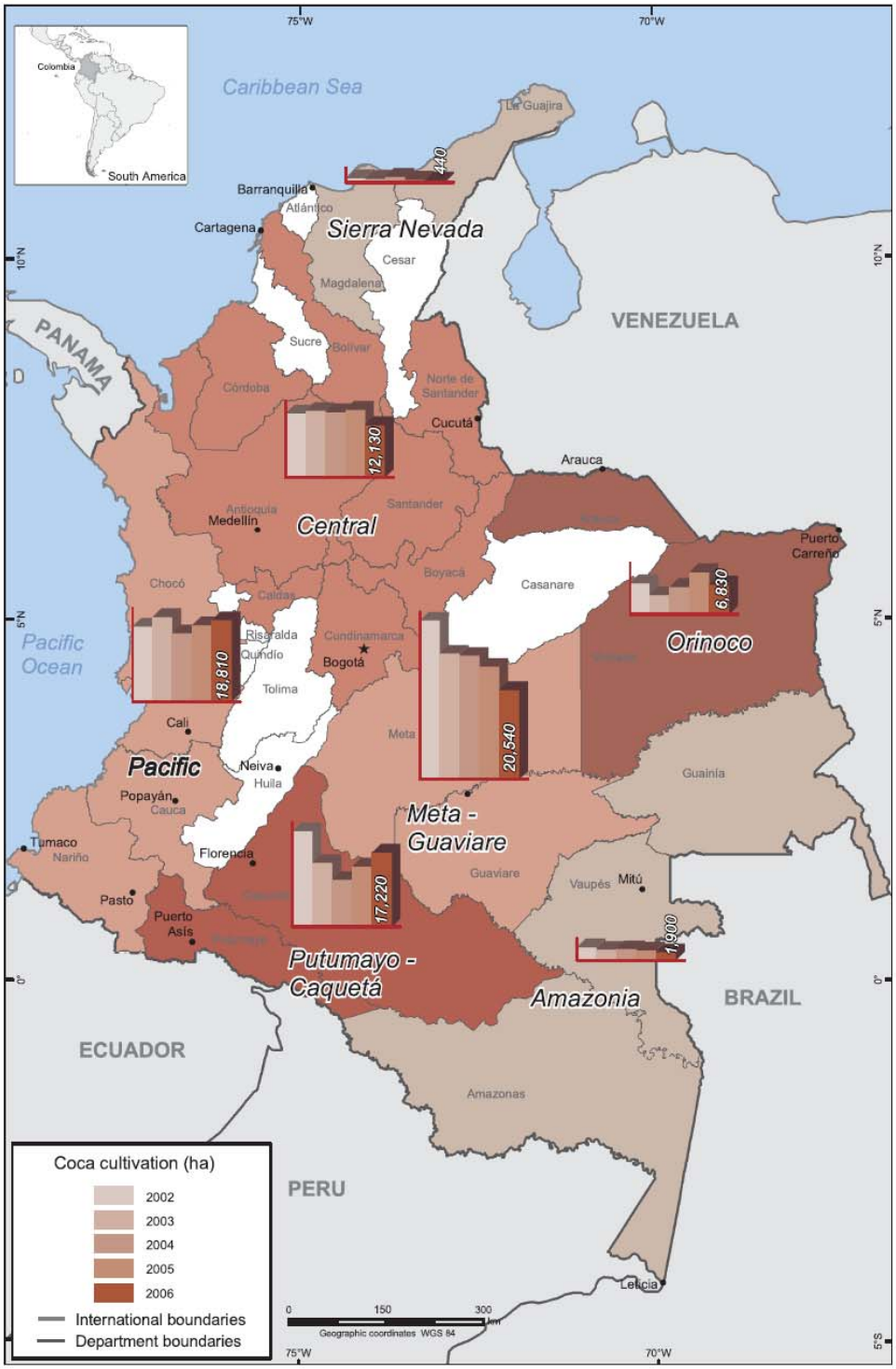


In 2006, prices for opium latex and heroin continued to increase slightly for the second consecutive year. The price increases are thought to reflect the reduction in opium poppy cultivation in Colombia.

Colombia, prices for opium latex and heroin (COP/kg and US$/kg), 2002 to 2006

	2002		2003		2004		2005		2006	
	'000 COP	US$	'000 COP	US$	'000 COP	US$	'000 COP	US$	'000 COP	US$
Opium latex (farm-gate)	529	211	444	154	433	164	534	230	560	237
Heroin (wholesale)	21,370	8,520	16,561	5,740	20,067	7,635	21,051	9,050	23,822	10,103

Colombia, coca cultivation by region, 2002 - 2006



Source: Government of Colombia - National monitoring system supported by UNODC.
The boundaries and names shown and the designations used on this map do not imply official endorsement or acceptance by the United Nations.

3.1.4 Lao PDR

FACT SHEET - Laos Opium Survey 2006[8]

	2005	Variation on 2005	2006
Opium poppy cultivation	1,800 ha	+40%	2,500 ha
Average opium yield	8 kg	0%	8 kg
Potential production of opium	14.4 mt	+40%	20 mt
Number of villages growing opium poppy	270		n/a
Number of households cultivating opium poppy	6200	-6%	5800[9]
Average farm gate price of opium	US$ 521/kg	+6%	US$ 550/kg
Total potential value of opium production	US$ 7.4 million	+49%	US$ 11 million
Average annual cash income of opium growing households	1,457,000 kip (US$ 139)		n/a
Opium growing households with rice deficit	57%		n/a
Average annual cash income of households not cultivating opium poppy	2,418,000 kip (US$ 231)		n/a
Eradication[10]	2,575 ha	-41%	1,518 ha
Number of opium addicts[11]	20,160		11,200
Average drug prevalence rate (based on 8 northern provinces in 2005 and 6 in 2006)[11]	1%		0.58%

Cultivation and eradication

In early 2006, Lao PDR declared that it was virtually opium poppy-free. Opium poppy cultivation has declined by over 90 per cent since 1998, when cultivation culminated at 26,800 hectares.

In 2006, the area under opium poppy cultivation in Lao PDR was estimated at 2,500 hectares. This is an increase of 39 per cent compared to 2005 (1,800 hectares). However, in absolute terms, the level of opium poppy cultivation remained at a very low level. Cultivation is mainly concentrated in seven northern provinces of Lao PDR.

The Government of Lao PDR reported intense eradication activities in the cultivation areas, including after the annual opium survey, on which the cultivation estimate is based.

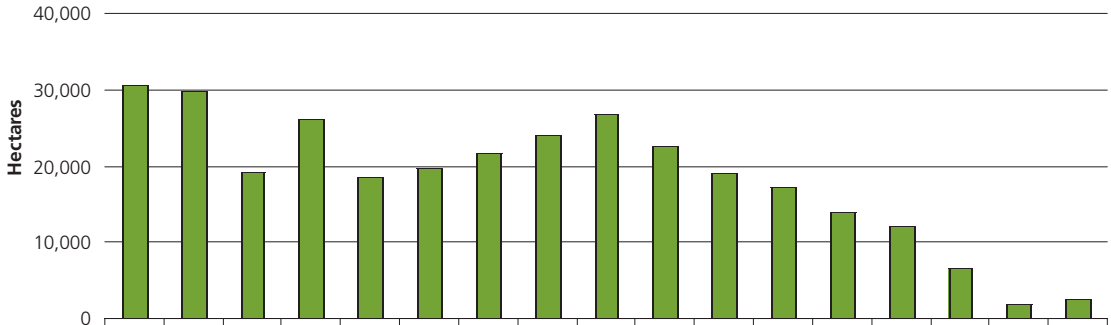
[8] The information in this section comes from the report on Opium Poppy Cultivation in the Golden Triangle (UNODC/Governments of Lao PDR, Myanmar, and Thailand, October 2006), and can also be found on the internet (http://www.unodc.org/unodc/en/crop_monitoring.html).

[9] Source: Lao Commission for Drug Control and Supervision (LCDC), provincial authorities survey.

[10] Source: LCDC.

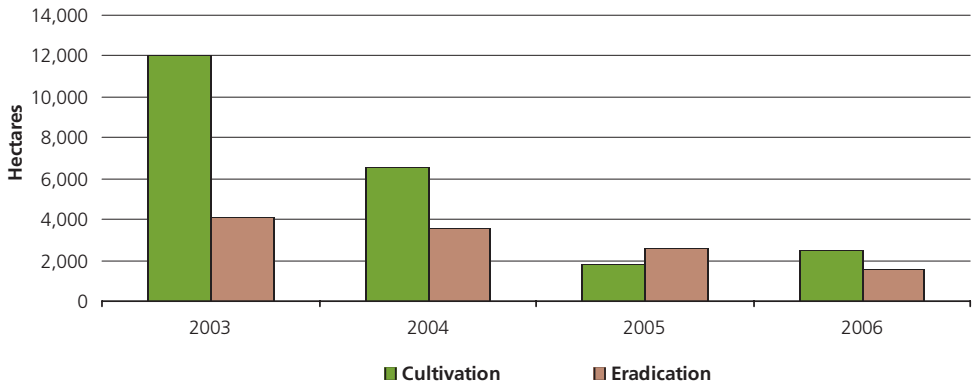
[11] Source: LCDC. Survey areas of 2005 and 2006 are not comparable.

Lao PDR, opium poppy cultivation (hectares), 1990 to 2006



	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Cultivation	30,580	29,625	19,190	26,040	18,520	19,650	21,601	24,082	26,837	22,543	19,052	17,255	14,000	12,000	6,600	1,800	2,500

Lao PDR, opium poppy cultivation* and eradication (hectares), 2003 to 2006

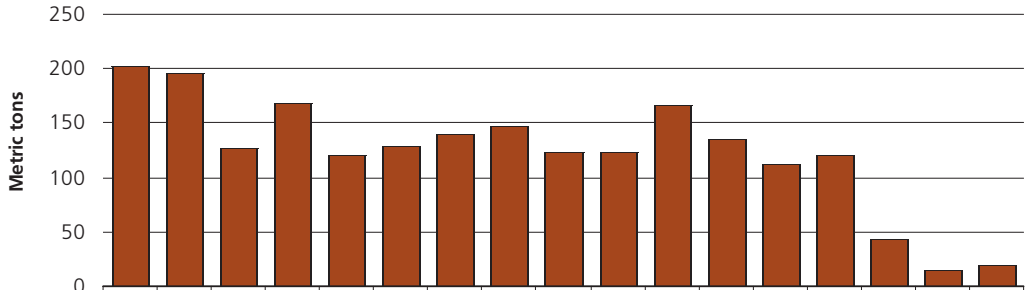


* after eradication

Production

The potential production of dry opium for the year 2006 was 20 metric tons, which is an increase of about 40 per cent compared to 2005. As in 2005, weather conditions were favourable for opium poppy cultivation, and the opium yield was estimated at 8 kg/ha.

Lao PDR, potential opium production (metric tons), 1990 to 2006

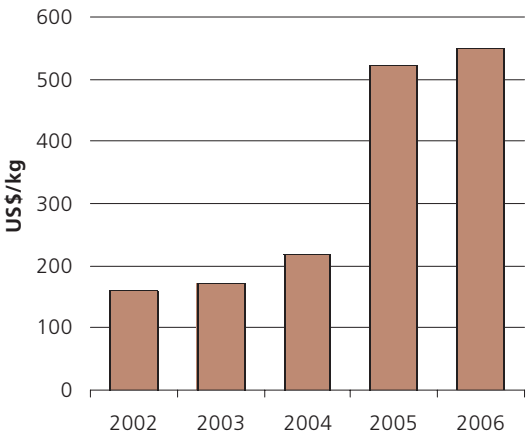


	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Production	202	196	127	169	120	128	140	147	124	124	167	134	112	120	43	14	20

Prices

In Lao PDR, opium is mainly bought and consumed by local addicts. In 2006, opium prices remained high with US$ 550 per kg, an increase of 5 per cent compared to 2005.

Laos, opium prices at farm gate (US$/kg), 2002 to 2006



Households

The number of opium poppy cultivation households in 2006 was 5,800, as reported by the Government. It seems that only a few households abandoned opium poppy cultivation in 2006 compared to previous years. The lack of viable alternative income strategies in remote rural areas and the high opium prices might have contributed to this situation. The high price level was also responsible for a disproportionate increase of the total value of the opium production by 49 per cent, while the area under cultivation only increased by 40 per cent.

3.1.5 Myanmar

Fact Sheet - Myanmar Opium Survey 2006[12]

	Year 2005	Variation on 2005	Year 2006
Opium poppy cultivation in Myanmar[13]	32,800 ha	-34%	21,500 ha
Opium poppy cultivation in Shan State	30,800 ha	-33%	20,500 ha
Opium yield (weighted by area)	9.5 kg/ha	+54%	14.6 kg/ha
Potential production of opium in Myanmar (including the Shan State)	312 mt	+1%	315 mt
Opium poppy eradication in the Union of Myanmar[14]	3,907 ha	+ 2%	3,970 ha
Average farm-gate price of opium[15]	US$ 187/kg	+23%	US$ 230/kg
Total potential farm-gate value of opium production	US$ 58 million	+25%	US$ 72 million
Estimated number of households involved in opium poppy cultivation in Myanmar	193,000	-34%	126,500
Number of persons involved in opium poppy cultivation in Myanmar	965,000	-34%	632,500
Estimated number of households involved in opium poppy cultivation in the Shan State	181,000	-34%	120,000
Household average yearly income in opium producing households (Shan State)	US$ 292	+50%	US$ 437
Of which from opium sale	US$ 152 (or 52%)	+ 43%	US$ 217 (or 50 %)
Per capita income in opium producing households (Shan State)	US$ 58	+50%	US$ 87
Household average yearly income in non-opium poppy producing household (Shan State)	US$ 364	-12%	US$ 318
Per capita income in non-opium producing households (Shan State)	US$ 73		US$ 64
Addiction rate in Shan State and Kachin (Population aged 15 and above)	0.57% (including Wa)	n.a.	0.60% (excluding Wa)

Cultivation and eradication

In 2006, the total area under opium poppy cultivation was estimated at 21,500 hectares, representing a decrease of 34 per cent compared to 2005 (32,800 hectares). The largest cultivation areas were found in South Shan State, where 72 per cent of the national cultivation took place. While other cultivation areas such as Kachin, North Shan and Wa were on the decline, the area under opium poppy increased sharply in South and East Shan. Opium poppy cultivation practices seemed to change in South Shan, where farmers prolonged the cultivation season by using multi-stage cropping, or planting outside the typical opium poppy season. Signs of intensification such as irrigation and application of fertilizer were also observed.

[12] The information in this section comes from the report on Opium Poppy Cultivation in the Golden Triangle (UNODC/Governments of Lao PDR, Myanmar, and Thailand, October 2006), and can also be found on the internet: (http://www.unodc.org/unodc/en/crop_monitoring.html).

[13] In 2006, an additional four townships in Kachin State and two in Kayah State were included into the survey.

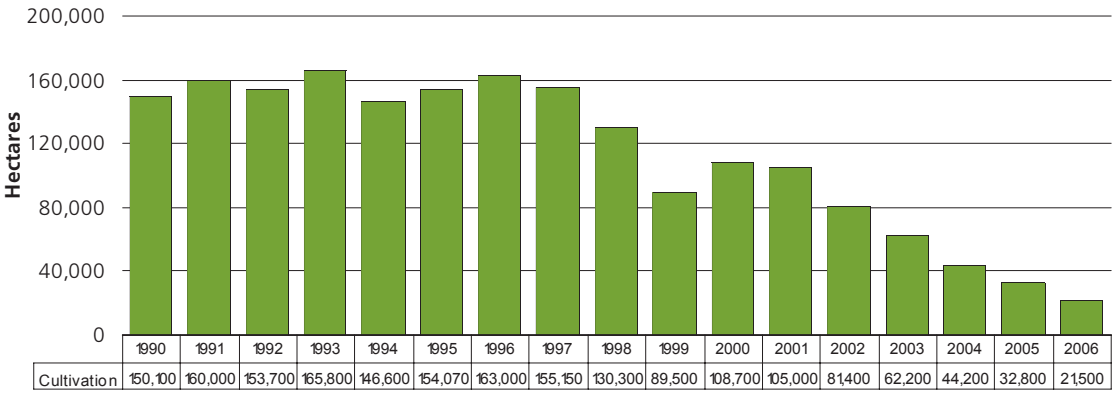
[14] Source: Central Committee for Drug Abuse Control (CCDAC), Government of Myanmar.

[15] For 2006: price at harvest time.

Official reports from the Government indicated that the level of opium poppy eradication in 2006 (3,970 hectares) was similar to 2005 levels. The Government increased its eradication activities specifically in South Shan, where an upsurge of cultivation was observed, while eradication decreased in the other regions. Overall, the decrease in cultivation can be largely attributed to the observance of the opium ban in Wa and North Shan, and not to an increase in eradication.

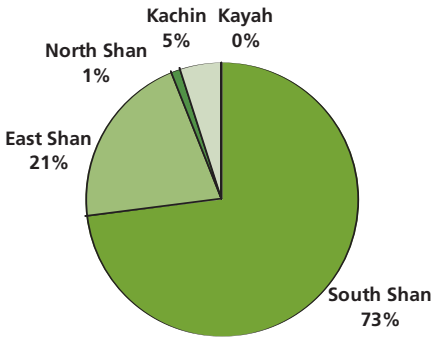
Opium cultivation in Myanmar continues to decline. Since 2002, the year of the first joint GoUM/UNODC survey, opium poppy cultivation has fallen 73 per cent. Remarkably, no opium cultivation was observed in the Wa region in 2006. In 2005, this region contributed to 30 per cent of the national opium poppy cultivation. The decline in cultivation poses serious challenges for the rural population in the remote areas of this region, who do not have viable alternative income strategies.

Myanmar, opium poppy cultivation (hectares), 1990 to 2006



	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Cultivation	150,100	160,000	153,700	165,800	146,600	154,070	163,000	155,150	130,300	89,500	108,700	105,000	81,400	62,200	44,200	32,800	21,500

Myanmar, distribution of opium poppy cultivation by state, 2006



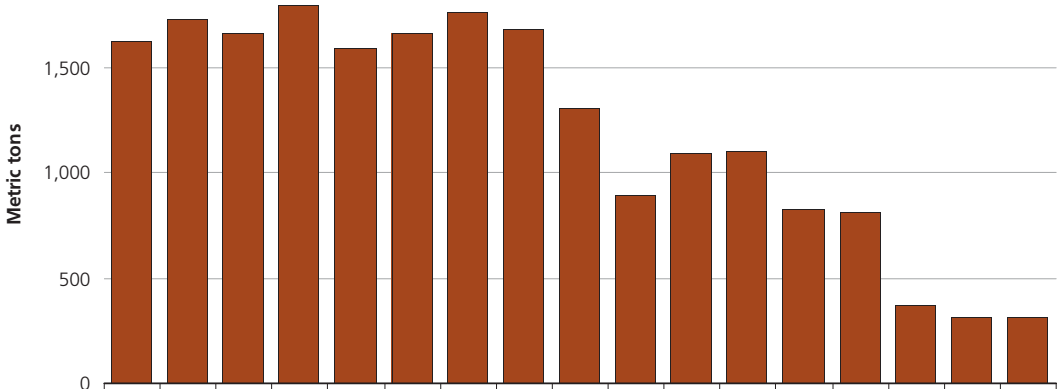
Opium poppy eradication as reported by the Government of the Union of Myanmar (hectares), 2002 to 2006

Administrative Unit	2002	2003	2004	2005	2006
North Shan State	6,223	235	172	1,211	76
South Shan State	511	182	2,170	1,203	3,175
East Shan State	14	91	195	124	32
S. R. 2 (Wa)	94	55	0	0	0
Shan State	**6,842**	**563**	**2,537**	**2,538**	**3,283**
Kachin State	97	56	126	1,341	678
Kayah State	527	9	83	8	0
Other States	3	8	74	20	9
Total	**7,469**	**638**	**2,820**	**3,907**	**3,970**

Production

In 2006, weather conditions were favourable for opium poppy cultivation. In addition, improved cultivation practices in the main cultivation area led to higher yields, which increased to 14.6 kg/ha in 2006 as opposed to only 9.5 kg/ha in 2005. With 315 metric tons of dry opium, the level of opium production in 2006 remained therefore at about the 2005 level, despite the cultivation decreases.

Myanmar, potential opium production (metric tons), 1990 to 2006



	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Production	1,621	1,728	1,660	1,791	1,583	1,664	1,760	1,676	1,303	895	1,087	1,097	828	810	370	312	315

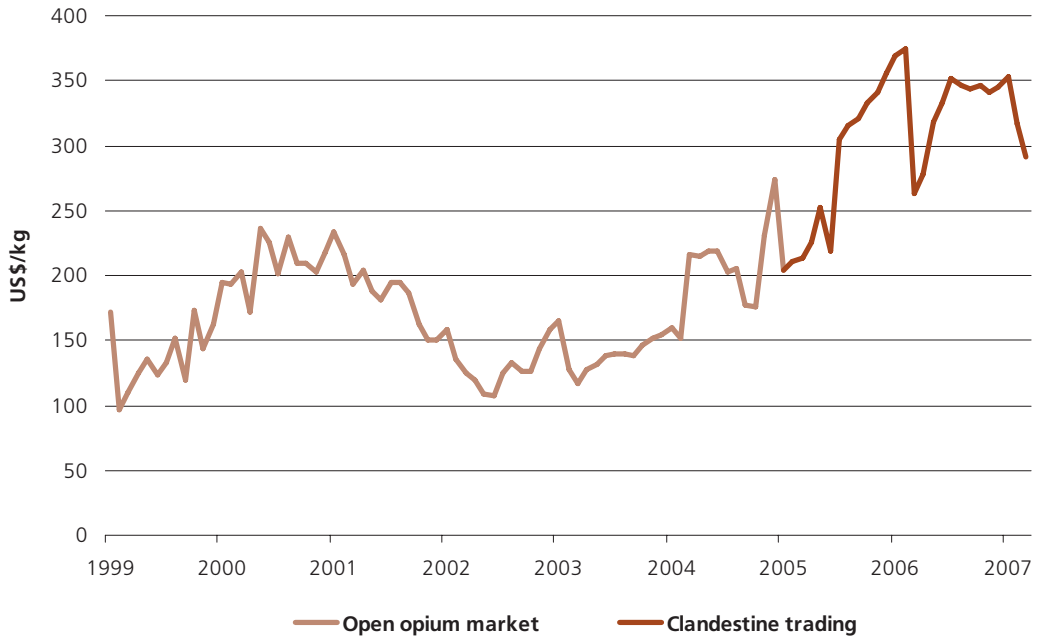
Prices

The average farm gate price of opium at harvest time was estimated at US$ 230 per kg. This represents an increase of 23 per cent compared to 2005. Regional price differences were pronounced with the highest prices in low cultivation areas of Kachin and North Shan and the lowest prices in the main cultivation areas South and East Shan. The regional price differences seem to reflect well the scarcity or availability of opium in different regions, as well as the fragmentation of the opium market caused by opium bans in some regions.

Myanmar, average opium poppy prices at harvest time (US$/kg), 2005 to 2006

Region	2005		2006	
	Non-growing villages	Growing villages	Non-growing villages	Growing villages
East Shan	327	205	464	217
North Shan	276	309	447	383
South Shan	188	169	230	210
Kachin	366	256	715	258
Weighted National Average	187		230	

Wholesale prices for dry opium at Mong Pawk, Wa Special Region 2, Eastern Shan State (US$/kg), 1999 to 2007



Household income and strategies

In 2006, a much smaller number of households (minus 34 per cent) produced the same amount of opium due to higher yields and sold it for a much higher price compared to 2005. As a consequence, the total value of the national opium production, which increased considerably, was distributed among fewer households. This concentration led to an unusually high average household cash income of US$ 437 in opium cultivating households in 2006, an increase by 50 per cent compared to 2005.

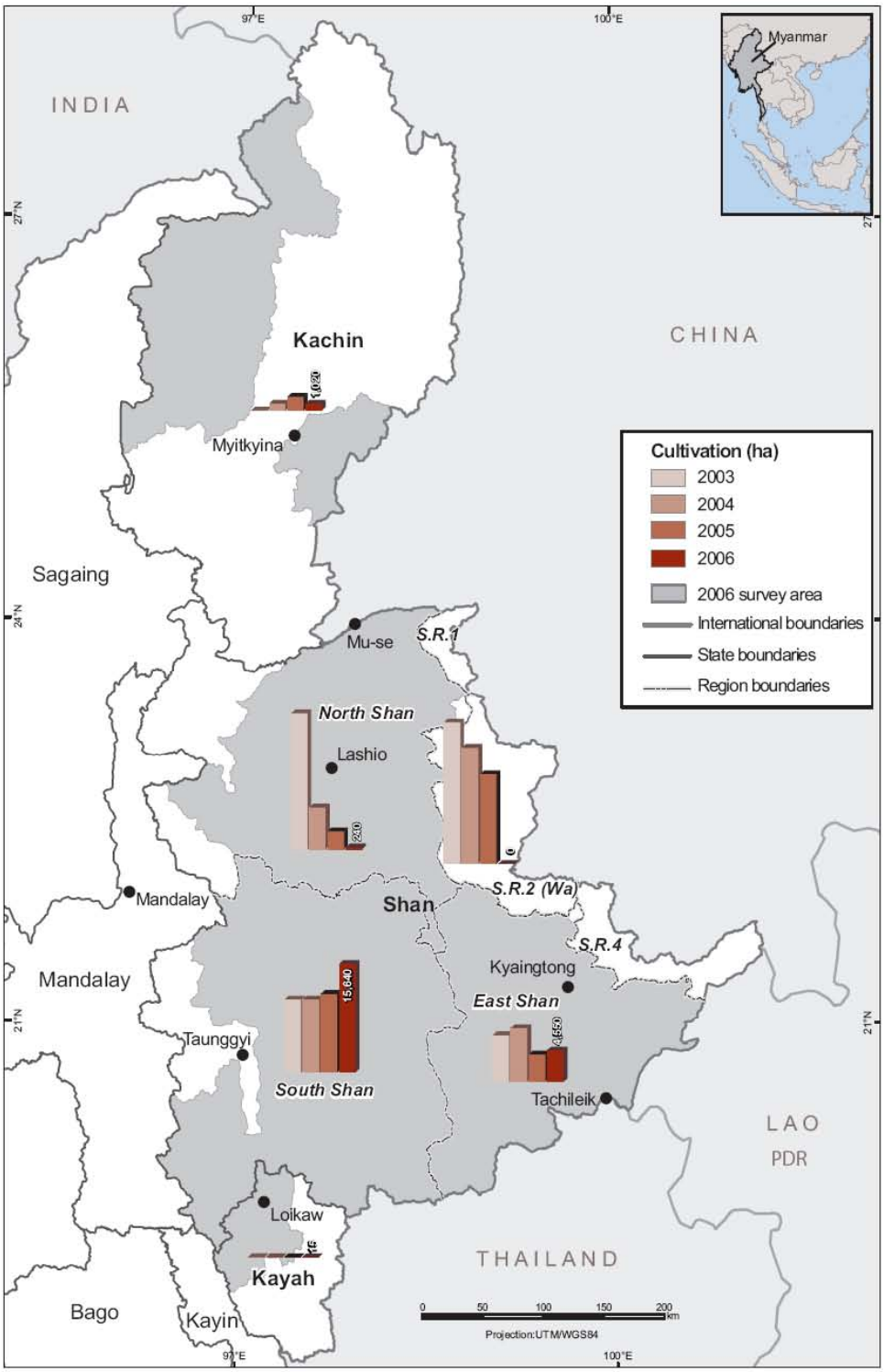
In 2006, the cash income of households in villages that never grew opium poppy was higher than in villages that stopped cultivation, as these villages could not find adequate ways of substituting the lost income from opium.

The most common strategy for farmers who had stopped opium poppy cultivation was to grow more (upland) rice or maize and sell livestock. Villages with access to paddy land were less likely to cultivate opium poppy as households generally achieved a higher degree of food self-sufficiency.

Addiction

In the Shan State (excluding Wa region), opium addiction affected 0.60 per cent of the rural adult population in 2006. Within the survey area, the average level of addiction was 2.16 per cent in villages with opium poppy cultivation, which is significantly higher than in villages where opium poppy was not cultivated (0.25 per cent).

Myanmar, opium poppy cultivation, 2003 - 2006



Source: Government of Myanmar - National monitoring system supported by UNODC.
The boundaries and names shown and the designations used on this map do not imply official endorsement or acceptance by the United Nations.

3.1.6 Peru

FACT SHEET - Peru Survey 2006[16]

	2005	Variation on 2005	2006
Coca cultivation	48,200 ha	+7%	51,400 ha
Of which in Alto Huallaga	16,000 ha	+7%	17,100 ha
Apurímac-Ene	15,000 ha	+2%	15,800 ha
La Convención-Lares	12,500 ha	+2%	12,700 ha
Elsewhere	4,200 ha	+38%	5,800 ha
Weighted average sun-dried coca leaf yield	2,200 kg/ha		2,200 kg/ha
Potential production of sun-dried coca leaf	106,000 mt	+8%	114,100 mt
Potential production of cocaine HCl[17]	260 mt	+8%	280 mt
In per cent of global production	27%		28%
Average farm-gate price of sun-dried coca leaf	US$ 2.87/kg	-12%	US$ 2.52/kg
Potential farm-gate value of sun-dried coca leaf	US$ 307 million	-7%	US$ 285 million
Average price of coca paste	US$ 638/kg	-14%	US$ 550/kg
Average price of cocaine HCl	US$ 897/kg	-8%	US$ 823/kg
Reported eradication of coca cultivation	12,237 ha	+4%	12,688 ha
Reported seizure of coca paste	4,583 kg	+10%	5,044 kg
Reported seizure of cocaine HCl	17,815 kg	-17%	14,749 kg
Reported seizure of opium latex	505 kg	-78%	109 kg

[16] The information in this section comes from the report on Opium Poppy Cultivation in the Golden Triangle (UNODC/Governments of Lao PDR, Myanmar, and Thailand, October 2006), and can also be found on the internet (http://www.unodc.org/unodc/en/crop_monitoring.html).

[17] Figure for 2005 was revised based on updated information available on the amount of coca leaf necessary to produce one kilogramme of cocaine HCl.

Cultivation and eradication

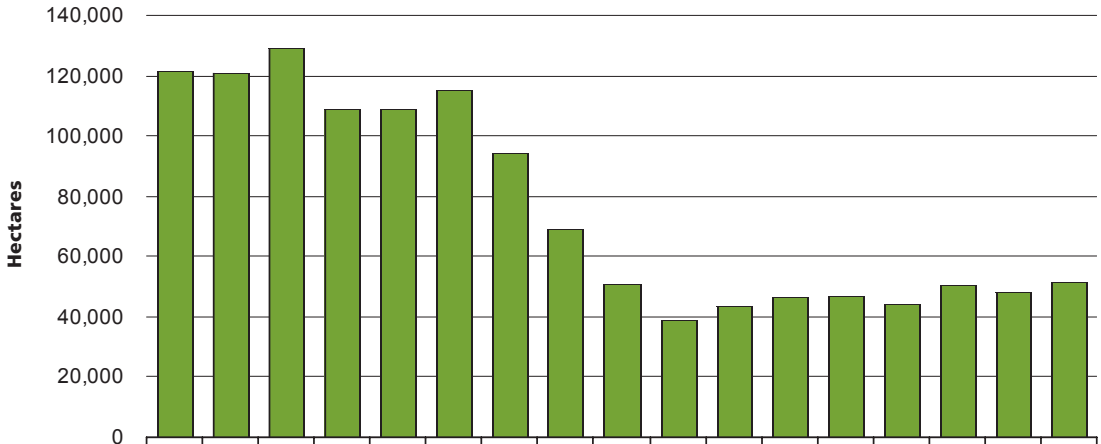
In 2006, coca cultivation in Peru increased by 7 per cent and amounted to 51,400 hectares. Despite this increase, coca cultivation remained well below the levels registered in the mid 1990s, when Peru was the world's largest cultivator of coca bush. However, Peru remains the second largest coca cultivating country behind Colombia, and accounts for one third of the global cultivation.

Although there was only a moderate increase in the coca cultivation in the three major cultivating regions, Alto Huallaga, Apurimac and La Convencion-Lares, they were still the largest contributors to the overall increase of 3,200 hectares in absolute terms. Furthermore, several of the smaller cultivation areas grew rapidly and a new cultivation area was discovered in the Brazil-Colombia-Peru border triangle.

Eradication of coca bush, which in Peru is done manually, was slightly higher than in 2005 and reached 12,688 hectares, the second highest eradication figure reported by the Government.

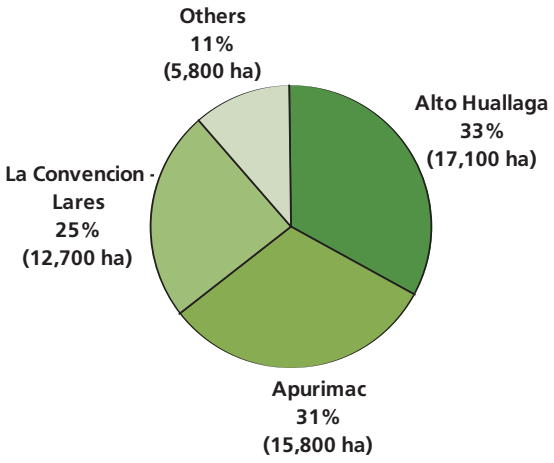
Seizures of a small amount of opium latex indicate that opium poppy cultivation in Peru continues to exist. There are no indications that the level of opium cultivation has changed significantly since 2004, when the last estimate of about 1,400 hectares was released by the Government.

Peru, coca cultivation and eradication (hectares), 1990 to 2006



	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Cultivation	121,300	120,800	129,100	108,800	108,600	115,300	94,400	68,800	51,000	38,700	43,400	46,200	46,700	44,200	50,300	48,200	51,400

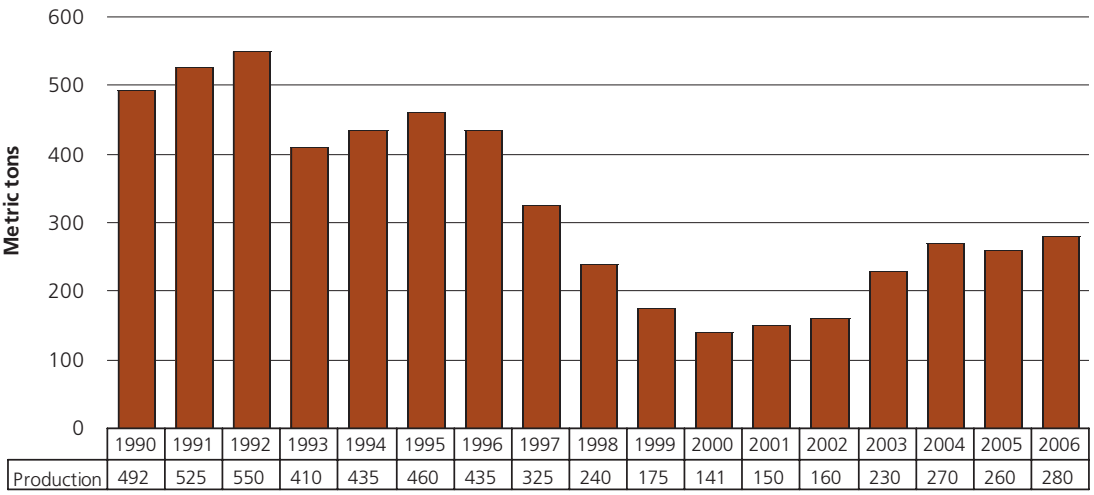
Peru, coca cultivation by region, 2006



Production

Based on updated information on the amount of coca leaf necessary to produce one kilogram of cocaine HCl, the total potential cocaine production in 2006 amounted to 280 metric tons, which is an increase of 8 per cent compared to 2005. While this is the highest production figure since 1998, it is still only about half the amount registered during the cocaine production peak in Peru in 1992. In 2006, Peru accounted for 28 per cent of the global cocaine production.

Peru, potential cocaine production (metric tons), 1990 to 2006



	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Production	492	525	550	410	435	460	435	325	240	175	141	150	160	230	270	260	280

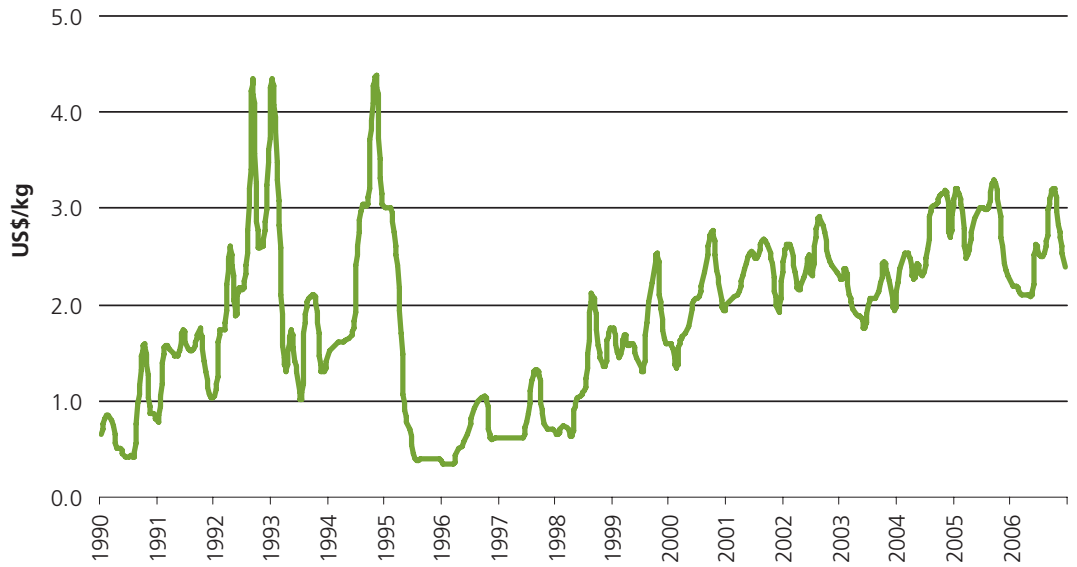
Figures from 2003 to 2005 were revised based on updated information on the amount of coca leaf necessary to produce one kilogramme of cocaine HCl.

Prices

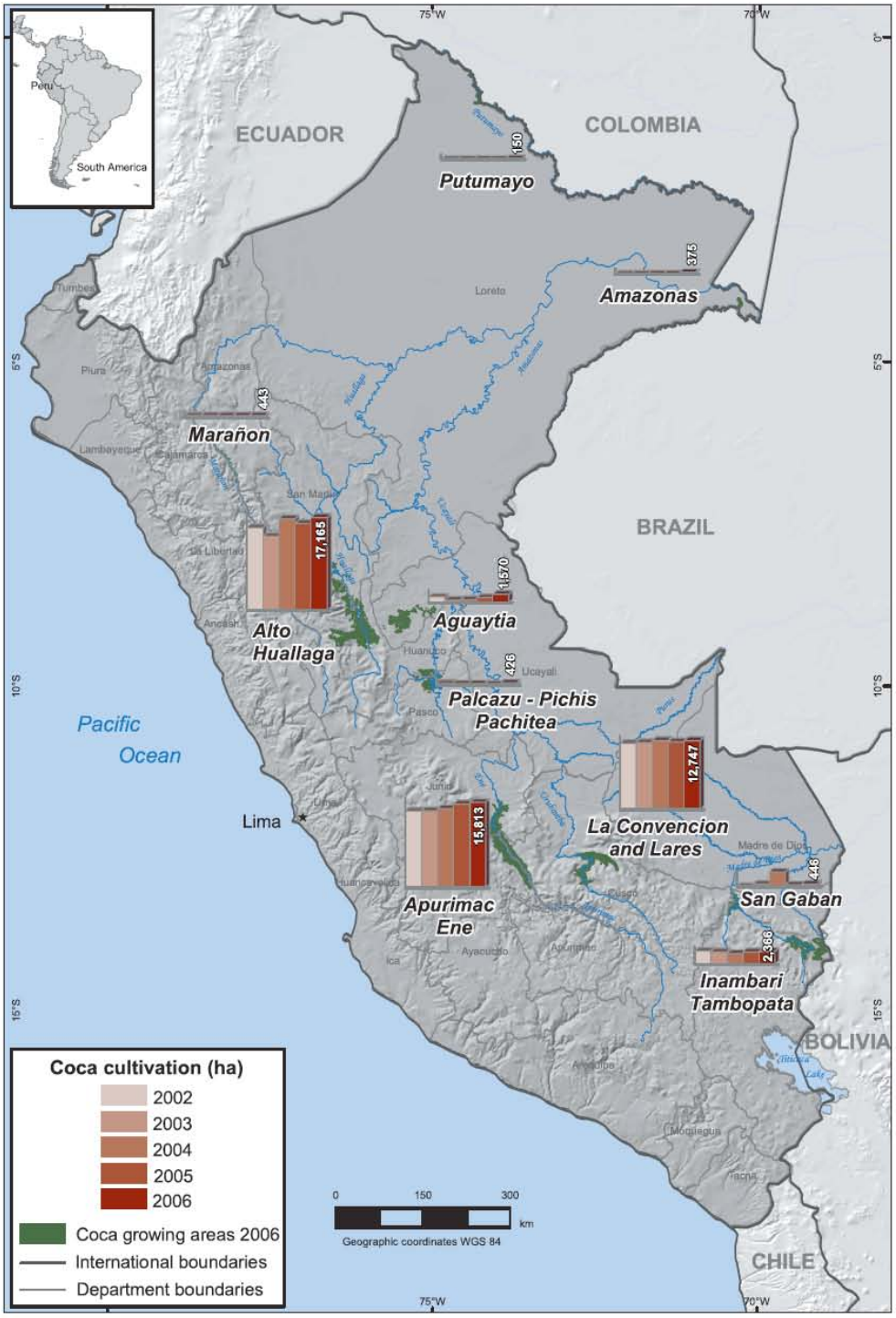
By and large, monthly average prices for sun-dried coca leaf at the farm-gate in 2006 remained in the US$ 2/kg to US$ 3/kg price range observed since 2001. Farm-gate prices for sun-dried coca leaf declined from a national average of US$ 2.9/kg in 2005, to only US$ 2.5/kg in 2006. This decline was observed in all cultivation regions. However, regional and seasonal price differences continued to be present.

In 2006, wholesale prices for coca paste and cocaine HCl fell by 14 per cent and 8 per cent respectively compared to 2005, similar to the prices for sun-dried coca leaf.

Peru, monthly farm-gate prices of sun-dried coca leaf (US$/kg), 1990 to 2006



Peru, coca cultivation by region in 2002 - 2006



Source: National monitoring system supported by UNODC - Government of Peru.
The boundaries and names shown and the designations used on this map do not imply official endorsement or acceptance by the United Nations.

3.2 Seizures

A complete set of seizures tables can be found on the UNODC website at: www.unodc.org/unodc/en/world_drug_report.html

3.3 Seizures of illicit laboratories

A complete set of seizures of illicit laboratories tables can be found on the UNODC website at: www.unodc.org/unodc/en/world_drug_report.html

3.4 Prices

3.4.1 Opiates: Wholesale, street prices and purity levels

Retail prices (street price), US$/gram

EUROPE	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006**
Austria	270	*250*	203	132	138	103	87	70	94	57	75	44	92	68	75	74	71
Belgium	*90*	105	105	77	75	75	56	37	41	41	37	27	29	31	32	*31*	19
Denmark	287	265	151	139	228	191	157	188	147	175	116	111	126	122	94	123	100
Finland	*800*	696	770	724	606	455	414	257	254	250	207	121	188	*195*	*195*	182	125
France	*145*	153	150	135	144	170	156	113	119	111	*32*	34	47	57	68	69	67
Germany	105	75	96	74	91	90	74	51	43	45	39	38	38	46	49	48	46
Greece	120	175	63	44	105	88	77	80	55	55	55	53	45	65	51	31	75
Italy	167	148	140	29	55	41	115	98	120	95	71	68	59	63	69	68	67
Luxembourg	*172*	*150*	*150*	*150*	172	202	138	141	133	126	69	67	*67*	45	76	*64*	*64*
Netherlands	49	*50*	55	49	*55*	61	48	55	34	30	25	43	35	40	57	*40*	*40*
Norway	1,680	525	510	275	349	300	282	198	186	166	128	157	165	198	148	220	*220*
Iceland	*184*	*376*	*374*	*407*	380	410	377	372	*372*	*372*	*372*	*372*	*372*	*372*	*372*	*372*	*372*
Portugal	83	82	72	63	65	79	68	55	74	37	45	45	41	54	52	52	49
Spain	*175*	*185*	*180*	*126*	132	120	112	88	82	75	59	57	61	75	81	80	78
Sweden*	*225*	*210*	*195*	*180*	*165*	337	346	135	130	126	113	129	133	128	119	92	*92*
Switzerland	312	221	248	126	164	190	116	81	96	167	53	45	39	*48*	*48*	*48*	*48*
United Kingdom	157	144	*144*	134	129	125	108	118	120	108	107	86	91	100	110	93	*97*
Ireland	*196*	*180*	*180*	*168*	*161*	179	275	228	213	204	176	170	179	179	248	252	*252*
Average unweighted in US$	290	222	210	168	179	179	167	131	128	124	99	93	100	105	108	108	105
inflation adjustment in US$	**447**	**328**	**302**	**235**	**243**	**236**	**214**	**165**	**159**	**151**	**116**	**105**	**112**	**115**	**115**	**111**	**105**
Weighted average in US$	173	149	147	107	118	119	118	93	94	87	64	59	62	70	75	72	71
Adjusted for inflation in US$	**267**	**221**	**211**	**149**	**161**	**157**	**151**	**117**	**117**	**105**	**74**	**67**	**70**	**77**	**81**	**74**	**71**
Weighted average in Euro	**136**	**120**	**113**	**91**	**100**	**91**	**93**	**82**	**84**	**81**	**69**	**66**	**66**	**62**	**61**	**58**	**56**
Adjusted for inflation in Euro	**196**	**165**	**149**	**116**	**123**	**110**	**110**	**95**	**96**	**91**	**76**	**71**	**70**	**65**	**62**	**59**	**56**

Sources: ARQ data and EUROPOL and in italic UNODC * Calculation for Sweden is based on brown heroin price (80%) and white heroin price (20%) ** Data available till November 2006

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
USA	281	279	268	268	204	196	170	151	162	137	126	110	88	116	152	195	
Adjusted for inflation	**433**	**413**	**385**	**374**	**277**	**259**	**219**	**190**	**201**	**165**	**148**	**125**	**98**	**127**	**162**	**201**	

Sources: ONDCP: 1990-2000 data, UNODC ARQ: 2001-2002 data, ONDCP, The Price & Purity of Illicit Drugs 1981-2003, for 2003 and CEWG for 2004.

Wholesale, US$/kg

EUROPE	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006**
Austria	*55,244*	*46,145*	63,000	36,000	37,752	30,491	30,222	28,831	34,565	31,087	25,026	19,553	23,547	33,900	37,260	36,168	37,640
Belgium	*30,000*	30,000	28,500	26,600	29,586	32,580	24,307	21,761	20,847	18,557	18,360	20,292	22,229	20,960	23,040	23,336	*23,336*
Denmark	*110,000*	*100,000*	85,000	95,000	117,625	106,805	86,806	100,465	65,693	61,507	23,585	32,889	20,803	41,770	32,820	37,741	35,967
Finland	*353,774*	*353,774*	*353,774*	*353,774*	*353,774*	353,774	*321,586*	*199,442*	*197,856*	*194,357*	*161,034*	*44,840*	51,804	*51,800*	68,314	69,192	*69,192*
France	180,000	72,250	80,000	63,750	*75,000*	66,035	46,603	32,230	25,885	25,596	22,158	26,906	23,547	28,250	31,050	31,450	35,548
Germany	45,244	36,145	41,667	35,206	36,448	35,256	27,890	25,686	25,608	24,770	20,263	17,816	20,325	21,510	25,723	25,765	22,510
Greece	90,000	70,000	35,000	28,000	29,536	34,362	39,090	28,775	21,020	20,714	17,320	16,592	17,425	18,650	17,540	14,782	19,447
Italy	67,500	60,000	108,000	42,581	47,690	35,786	48,152	37,795	36,459	36,894	31,163	32,979	33,669	29,830	30,109	30,496	29,750
Luxembourg	*86,000*	*75,000*	*75,000*	49,500	*86,000*	57,079	59,852	54,786	52,630	50,368	*48,000*	50,369	*50,369*	*24,700*	43,473	31,450	*31,450*
Netherlands	23,850	*25,000*	26,550	23,850	*23,850*	24,384	20,572	13,810	14,056	16,985	14,703	15,757	29,199	17,730	*17,730*	18,240	*18,240*
Norway	*220,000*	*200,000*	212,500	151,099	101,744	*85,000*	72,520	62,209	64,918	49,872	44,561	35,874	37,676	48,234	52,790	53,490	*53,490*
Portugal	50,000	55,000	46,667	31,500	32,428	43,171	45,902	38,841	30,483	29,339	25,398	31,310	25,839	31,000	34,075	34,512	34,512
Spain	160,000	*125,000*	*122,500*	*91,000*	74,418	79,880	84,395	63,880	52,755	53,820	43,596	32,000	41,202	48,420	46,350	47,055	47,371
Sweden*	*140,000*	*130,000*	*115,000*	*95,000*	*117,625*	62,655	64,829	65,771	63,190	61,022	41,626	33,702	34,738	41,900	31,648	35,970	*35,970*
Switzerland	124,000	153,800	228,875	47,460	52,823	54,850	41,665	37,234	34,294	33,422	29,568	16,082	19,149	*22,340*	23,580	25,420	25,420
United Kingdom	53,940	43,940	*43,500*	43,210	*42,500*	42,004	34,846	39,491	41,667	29,126	26,718	25,926	30,620	34,340	39,041	33,249	*27,920*
Ireland	*63,940*	*53,940*	*53,500*	*53,210*	*52,500*	81,479	77,643	36,531	34,396	43,478	37,600	36,441	36,441	*30,510*	*30,510*	33,967	*33,967*

Sources: ARQ data and EUROPOL and in italic UNODC * Calculation for Sweden is based on brown heroin price (80%) and white heroin price (20%) ** Data available till November 2006

Average unweighted in US$	109,029	95,882	101,120	74,514	77,135	72,094	66,287	52,208	48,019	45,936	37,099	28,784	30,505	32,108	34,415	34,252	34,219
infl.adj. in US$	**168,131**	**141,887**	**145,265**	**103,933**	**104,903**	**95,344**	**85,151**	**65,561**	**59,375**	**55,573**	**43,422**	**32,758**	**34,176**	**35,171**	**36,719**	**35,348**	**34,219**
Weighted average in US$	93,652	68,208	77,441	54,923	56,381	52,570	48,000	39,481	36,529	34,283	28,509	25,809	28,196	30,340	32,326	31,831	31,027
Inflation adj. (kg) in US$	**144,418**	**100,934**	**111,249**	**76,607**	**76,678**	**69,525**	**61,659**	**49,579**	**45,168**	**41,475**	**33,367**	**29,372**	**31,590**	**33,233**	**34,490**	**32,849**	**31,027**
Inflation adj. (gram) in US$	**144**	**101**	**111**	**77**	**77**	**70**	**62**	**50**	**45**	**41**	**33**	**29**	**32**	**33**	**34**	**33**	**31**
Weighted in Euro (g)	**74**	**55**	**60**	**47**	**47**	**40**	**38**	**35**	**33**	**32**	**31**	**29**	**30**	**27**	**26**	**26**	**25**
Inflation adjusted in Euro (g)	**106**	**75**	**79**	**60**	**59**	**49**	**45**	**40**	**37**	**36**	**34**	**31**	**32**	**28**	**27**	**26**	**25**

Sources: UNODC ARQ and EUROPOL. * Calculation for Sweden is based on brown heroin price (80%) and white heroin price (20%) ** Data available till November 2006

USA	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Average in US$	162,500	155,000	150,000	146,000	142,500	146,000	141,875	129,375	125,000	107,000	81,200	59,500	50,750	65,500	68,800	65,000	
Inflation adj. (kg) in US$	**250,588**	**229,370**	**215,484**	**203,642**	**193,798**	**193,086**	**182,249**	**162,464**	**154,563**	**129,447**	**95,040**	**67,714**	**56,857**	**71,747**	**73,407**	**67,080**	
Inflation adj. (gram) in US$	**235**	**215**	**202**	**191**	**182**	**181**	**171**	**152**	**145**	**121**	**89**	**63**	**53**	**72**	**73**	**67**	

Source: UNODC ARQ, CEWG for 2004.

OPIUM

Retail and wholesale prices and purity levels: breakdown by drug, region and country or territory

(prices expressed in US$ or converted equivalent, and purity levels in percentage)

	RETAIL PRICE (per gram)				WHOLESALE PRICE (per kilogram)			
Region / country or territory	Typical	Range	Purity	Year	Typical	Range	Purity	Year
Africa								
North Africa								
Egypt	20.6	18.8 - 22.3		2005	3,250.0	3,080.0 - 3,420.0		2005
Sudan	0.4			2005				
Southern Africa								
Zambia	8.9	8.7 - 8.9		2004				
Americas								
North America								
Canada	40.3	24.2 - 88.7		2005	18,548.4	17,741.9 - 28,225.8		2005
United States	34.0	28.0 - 40.0		2004	31,500.0	28,000.0 - 35,000.0		2005
South America								
Colombia					289.4			2005
Asia								
Central Asia and Transcaucasia								
Armenia	35.0		64.0 - 70.0	2005	25,000.0		69.0 - 80.0	2005
Georgia								
Kazakhstan	5.0	2.0 - 7.0		2004	4,455.0	1,500.0 - 12,000.0		2005
Kyrgyzstan	1.3	1.0 - 1.5		2005	1,250.0	1,000.0 - 1,500.0		2005
Tajikistan	3.0	2.0 - 4.0		2005	684.0	100.0 - 600.0		2005
Turkmenistan								
Uzbekistan					4,750.0	2,500.0 - 7,000.0		2005
East and South-East Asia								
China	1.8	1.0 - 3.0		2004	21,000.0	6,500.0 - 80,000.0		2005
Indonesia	29.8	26.9 - 32.6		2005				
Japan	27.8			2004				
Laos					218.0	200.0 - 400.0		2005
Malaysia					2,664.3	1,052.0 - 3,158.0		2005
Myanmar	0.7	0.6 - 0.9		2005	239.5	172.0 - 436.0		2005
Philippines	3.6			2005	3,626.5			2005
Republic of Korea	30.3	24.5 - 49.0		2005	5,190.3			2004
Thailand	2.1			2006	1,000.0			2005
Vietnam					350.0	320.0 - 380.0		2005
Near and Middle East /South-West Asia								
Afghanistan	0.1			2005	154.7			2005
Iran (Islamic Republic of)	3.6			2005	807.0			2005
Jordan	126.4	112.4 - 140.4		2005	11,235.5	9,831.0 - 12,639.9		2005
Lebanon					17,000.0	15,000.0 - 25,000.0		2005
Pakistan	0.5	0.4 - 0.7		2004	664.9	236.5 - 446.6		2005
Syrian Arab Republic	6.0	4.5 - 7.5	30.0 - 70.0	2004	4,000.0	3,000.0 - 5,000.0	30.0 - 70.0	2005
United Arab Emirates					3,450.0	2,700.0 - 4,200.0		2005
South Asia								
Bangladesh	2.0	1.5 - 2.5	20.0 - 40.0	2005	1,200.0	1,000.0 - 1,500.0		2005
India					345.8	230.0 - 461.0		2005
Sri Lanka	5.6	4.1 - 7.2		2005				
Europe								
East Europe								
Belarus	10.0			2004	6,500.0			2004
Russian Federation	23.5	4.7 - 78.5		2005	3,839.3	2,443.0 - 5,235.6		2005
Southeast Europe								
FYR of Macedonia					691.9	629.0 - 754.8		2005
Romania	22.0	6.3 - 12.6		2005	4,717.6			2005
Turkey					4,340.2	1,761.3 - 2,138.7		2005
West and Central Europe								
Austria	10.1	8.8 - 10.6		2005	2,924.9	2,516.1 - 3,145.1		2005
Czech Rep.	4.2			2005	2,540.0			2005
France	18.9			2005				
Latvia *	8.8			2005				
Lithuania	3.0	1.8 - 3.6		2005				
Norway	37.7			2005	12,894.7	10,693.0 - 15,096.4		2005
Sweden					7,913.7	7,194.2 8,633.1		2005
United Kingdom	27.4			2005	8232.58			2005

* For 1cm^3 of concentrate of poppy straw

HEROIN
Retail and wholesale prices and purity levels:
breakdown by drug, region and country or territory
(prices expressed in US$ or converted equivalent, and purity levels in percentage)

	RETAIL PRICE (per gram)				WHOLESALE PRICE (per kilogram)			
Region / country or territory	Typical	Range	Purity	Year	Typical	Range	Purity	Year
Africa								
East Africa								
Kenya (Heroin no.3)	12.9	12.9 - 19.4		2004	16,145.4	12,916.6 - 19,374.8		2004
(Heroin no.4)	15.5	15.5 - 23.3		2004	22,604.0	19,374.8 - 25,833.1		2004
Uganda (Heroin no.3)	12.5	10.0 - 15.0		2005	30,000.0	25,000.0 - 30,000.0		2005
(Heroin no.4)	17.5	15.0 - 20.0		2005				
North Africa								
Egypt	36.0	34.3 - 37.7		2005	25,685.0	23,970.0 - 27,400.0		2005
Libya					39,370.1	23,622.1 - 55,118.1		2005
Southern Africa								
Namibia (Heroin no.3 & 4.)	76.0	76.0 - 84.5		2005				
South Africa	44.8			2004				
Zimbabwe	49.3	43.8 - 54.8		2004				
West and Central Africa								
Burkina Faso	49.8	49.8 - 69.8	15 (10-20)	2005				
Cameroon	29.9			2005				
Congo	10.0	10.0 - 14.0		2005	9,270.2	9,270.2 - 11,124.3		2004
Gabon	92.7	55.6 - 111.2		2004				
Ghana	16.2			2005	19,000.0	16,000.0 - 22,000.0	75 (60-90)	2004
Guinea	17.5	15.0 - 20.0		2005	17,500.0	15,000.0 - 20,000.0		2005
Nigeria (Heroin no.3)	17.1	15.2 - 19.0		2005	18,778.5	18,588.8 - 18,968.1		2005
(Heroin no.4)					22,586.1			2004
Togo (Heroin no.1)	23.9	23.9 - 29.9		2005				
Americas								
Caribbean								
Dominican R.	30.0			2005	30,000.0			2005
Trinidad Tobago	128.8			2005				
Central America								
El Salvador	69.0	65.0 - 70.0		2005	75,000.0	70,000.0 - 80,000.0		2004
Guatemala	11.6	11.6 - 12.9	80.0 - 85.0	2005				
Honduras	5.3	2.6 - 7.9	63 (50-75)	2004	18,000.0	16,000.0 - 20,000.0	85.0 - 93.0	2005
Panama					10,000.0			2005
North America								
Canada (Heroin no.3)	201.6	161.3 - 322.6	1.0 - 100.0	2005	64,516.1	64,516.1 - 88,709.7		2005
(Heroin no.4)	282.3	282.3 - 645.2		2005	76,612.9	64,516.1 - 181,451.6		2005
Mexico (Heroin no.4)					32,850.0			2005
United States (Heroin no.4)	207.5	40.0 - 375.0	12.0 - 95.0	2005	65,000.0	40,000.0 - 90,000.0	90.0	2005
(Black Tar)	195.0	40.0 - 350.0	5.0 - 53.0	2005	28,000.0	16,000.0 - 40,000.0	39.0	2005
South America								
Argentina					110,000.0	100,000.0 - 120,000.0		2004
Brazil	50.0	30.0 - 70.0		2005	50,000.0			2005
Colombia (Heroin no.4)	20.1			2005	6,838.7			2005
Ecuador					13,000.0	12,000.0 - 15,000.0		2005
Asia								
Central Asia and Transcaucasia								
Armenia	150.0			2005	120,000.0		60.0 - 75.0	2005
Georgia	100.0	90.0 - 200.0		2004				
Kazakhstan	17.0	11.0 - 22.0		2004	15,781.3	4,000.0 - 40,000.0		2005
Kyrgyzstan (Heroin no.4)	4.5	4.0 - 5.0		2005	1,500.0	1,000.0 - 2,000.0		2005
Tajikistan (Heroin no.3)	2.5	2.0 - 3.0		2005	1,800.0	1,200.0 - 2,500.0		2005
(Heroin no.4)					5,500.0	4,000.0 - 7,000.0	10.0 - 80.0	2005
Uzbekistan					25,000.0	15,000.0 - 35,000.0		2005
East and South-East Asia								
China	36.2	18.1 - 96.5	20	2004				
Hong Kong SAR, China (no.4)	45.7	16.9 - 96.8		2005	33,248.1	23,225.8 - 48,000.0		2005
Indonesia	64.5	53.8 - 75.3		2005				
Japan	339.8	291.3 - 388.4		2005	42,000.0	28,000.0 - 56,000.0		2004
Laos					12,000.0	10,000.0 - 14,000.0		2004
Macau SAR, China (Heroin no.3)	50.0	37.0 - 62.0		2005				
Malaysia (Heroin no.3)					6,068.6	3,749.0 - 6,974.0		2005
(Heroin no.4)					25,230.0	10,526.0 - 45,000.0		2005
Myanmar (Heroin no.4)	56.2	11.2 - 89.9		2005				
Philippines	108.8			2005	108,794.2			2005
Singapore (Heroin no.3)	138.0	122.7 - 153.4		2005	9,885.0	9,400.0 - 10,370.0		2004
Thailand	105.0	87.5 - 122.0		2005	9,124.1	7,820.7 - 10,427.5		2005
Vietnam					16,000.0	14,000.0 - 18,000.0		2005

HEROIN

Retail and wholesale prices and purity levels: breakdown by drug, region and country or territory

(prices expressed in US$ or converted equivalent, and purity levels in percentage)

	RETAIL PRICE (per gram)						WHOLESALE PRICE (per kilogram)					
Region / country or territory	Typical	Range		Purity		Year	Typical	Range		Purity		Year
Near and Middle East/ South- West Asia												
Afghanistan	3.0	2.8	3.1			2005	3,016.5	2,830.0	3,203.0			2005
Bahrain (Heroin no.3)	265.2	212.2	318.2			2005	198,886.2	159,109.0	212,145.3			2005
(Heroin no.4)	318.2	265.2	397.8			2005	265,181.7	212,145.3	318,218.0			2005
Iran (Islamic Republic of)	12.7	5.1	20.3			2005	3,271.0					2005
Israel	45.0	20.0	50.0			2005	20,000.0	15,000.0	23,000.0			2005
Jordan	49.2	42.1	56.2			2005	19,662.1	18,257.7	21,066.5			2005
Lebanon (Heroin no.3)	35.0	30.0	40.0	40.0	60.0	2005	20,000.0	15,000.0	25,000.0	20.0	80.0	2005
(Heroin no.4)	40.0	35.0	45.0			2005	40,000.0	35,000.0	45,000.0	80.0		2005
Oman	51.9					2005	31,137.3					2005
Pakistan (Heroin no.3)	2.7	2.3	3.1			2005	2,688.4	2,280.0	3,096.8			2005
(Heroin no.4)	4.2	4.6	4.2			2005	4,158.8	3,733.5	4,584.1			2005
Syrian Arab Republic	20.0	17.0	23.0	75.0	95.0	2005	17,000.0	15,000.0	19,000.0	30.0	50.0	2005
United Arab Emirates (No.4)	142.5	135.0	150.0			2004	14,000.0	13,000.0	15,000.0			2005
South Asia												
Bangladesh (Heroin no.3)	8.0	7.0	10.0	3.0	6.0	2005	6,000.0	5,000.0	7,000.0	3.0	6.0	2005
(Heroin no.4)	9.0	8.0	12.0	5.0	8.0	2005	8,000.0	7,000.0	9,000.0	5.0	8.0	2005
India							4,610.4	3,457.8	11,526.1			2005
Maldives	77.6	77.6	232.9			2005	54,340.2	38,814.5	77,628.9			2005
Sri Lanka (Heroin no.3)	20.6	18.5	22.6	23.0	56.0	2005						
Europe												
East Europe												
Belarus (Heroin no.3)	45.0	30.0	90.0			2005	24,000.0	14,000.0	50,000.0			2005
Moldova R.	57.7	48.0	64.1			2005	60,000.0	55,000.0	65,000.0			2005
Russian Federation (Heroin no.3)	40.0					2005	23,721.5					2005
(Heroin no.4)	57.0	10.5	209.4	3.0	27.0	2005	32,809.0	8,027.9	17,452.0	64.0	95.0	2005
Ukraine	85.0	70.0	100.0			2005						
Southeast Europe												
Albania (Heroin no.3)	22.5	20.0	25.0			2005	13,500.0	12,000.0	15,000.0			2005
Bulgaria (Heroin no.3)	43.7	33.6	201.6	15.0	91.0	2005						
Croatia	43.4	34.7	52.1	5.0	15.0	2005	19,531.3	18,229.2	20,833.3	30.0	50.0	2005
FYR of Macedonia	22.0	18.9	25.2			2005	13,838.4	12,580.4	15,096.4			2005
Romania (Heroin no.3)	50.3	31.5	50.3			2005	21,386.6	16,354.5	21,386.6			2005
Turkey	18.2	16.4	20.1			2005	9,435.3	9,749.8	10,693.3	35.0	80.0	2005
West and Central Europe												
Andorra	56.6	50.3	62.9			2005						
Austria (Heroin no.3)	72.3	56.6	88.1			2005	34,596.0	25,160.7	44,031.3	54.0		2005
(Heroin no.4)	106.9	100.6	113.2			2005	69,192.0	62,901.8	75,482.1			2005
Belgium (Heroin no.3)	32.3					2004	23,336.6					2005
Cyprus (Heroin no.3)	129.1					2005	32,285.0					2005
(Heroin no.4)	180.1					2004	31,784.9					2004
Czech Republic (Heroin no.3)	47.2	21.6	86.8	5.0	89.0	2005	33,828.6	17,360.9	52,044.9	20.0		2005
Denmark (Heroin no.3)	123.0	52.7	210.9			2005	43,936.7	17,574.7	61,511.4			2005
(Heroin no.4)	210.9	105.5	351.5			2005	38,664.3	6,151.1	79,086.1			2005
Estonia (Heroin no.4)	94.4					2005	32,079.9					2005
Finland (Heroin no.4)	113.2	75.5	151.0			2005	69,192.0	62,901.8	75,482.1	6.0	63.0	2005
France (Heroin no.3)	50.3	37.7	69.2	2.0	10.0	2005	25,160.7	18,870.5	37,741.1	5.0	25.0	2005
(Heroin no.4)	62.9	37.7	100.6	2.0	10.0	2005	44,031.3	25,160.7	50,321.4	5.0	25.0	2005
Germany (Heroin no.3)	47.6					2005	25,765.8					2005
Greece (Heroin no.3)	72.3	50.3	94.4			2005	19,499.6	12,580.4	26,418.8	100.0		2005
(Heroin no.4)	78.6	56.6	100.6			2005	25,789.7	18,870.5	32,708.9			2005
Hungary (Heroin no.3)	49.2					2005	16,983.5					2005
(Heroin no. 4)	65.6					2005	56,839.3					2005
Ireland (Heroin no. 3)	251.6					2005	33,967.0					2005
Italy (Heroin no. 3)	68.4	59.9	76.8			2005	30,758.2	27,103.5	34,412.9			2005
(Heroin no. 4)	102.7	93.2	112.2			2005	48,577.5	44,399.6	52,755.5			2005
Latvia	179.9	132.6	227.3	2.0	87.0	2005	94,700.0	75,760.0	113,640.0			2005
Liechtenstein	33.9	29.7	42.4			2005						
Lithuania (Heroin no.3)	36.4					2005	20,693.1			67 (50-85)		2004
Luxembourg (Heroin no.3)	102.7			5.0	58.0	2005	31,450.9					2005
Malta (Heroin no.3)	76.8					2005	50,000.0	45,000.0	53,000.0	27.0	41.0	2005
Netherlands	37.7	25.2	50.3			2005	18,241.5	16,354.5	20,128.6			2005
Norway	220.2	125.8	314.5	5.0	50.0	2005	53,466.5	31,450.9	75,482.1			2005
Poland	44.0	31.5	62.9			2005	41,303.8					2005
Portugal (Heroin no.3)	52.1					2005	34,513.0					2005
Slovakia	32.6	26.1	39.1	51.0		2005	16,284.5	13,027.6	19,541.4			2005
Slovenia (Heroin no.3)	50.3					2005	19,373.8					2005
Spain (Heroin no.3)	80.1					2005	46,790.1			47.0		2005

HEROIN

Retail and wholesale prices and purity levels: breakdown by drug, region and country or territory

(prices expressed in US$ or converted equivalent, and purity levels in percentage)

	RETAIL PRICE (per gram)				WHOLESALE PRICE (per kilogram)			
Region / country or territory	Typical	Range	Purity	Year	Typical	Range	Purity	Year
Sweden (Heroin no.3)	91.6			2005	35,971.2	28,777.0 - 43,165.5		2005
(Heroin no.4)	125.9			2005	45,792.5			2005
Switzerland	65.7	29.7 - 101.7	10.0 - 15.0	2005	25,423.7	16,949.2 - 67,796.6		2005
United Kingdom	101.9	37.7 - 566.0	1.0 - 87.0	2005	39,622.6	22,641.5 - 56,603.8	1.0 - 78.0	2005
Oceania								
Australia	310.3	155.2 - 465.5		2005	93,095.4	62,063.6 - 124,127.2		2005
New Zealand (no.4 - Imported)	785.7	714.3 - 857.1		2005				
('homebake')	114.4	65.4 - 163.4		2004				

3.4.2 Cocaine: Wholesale, street prices and purity levels

Retail price (street price), US$/gram

EUROPE	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006**
Austria	198	*180*	167	120	126	156	138	118	113	93	94	78	71	90	103	101	88
Belgium	*80*	90	68	95	82	93	90	57	55	60	55	51	50	51	*51*	*51*	62
Denmark	144	135	111	90	*150*	176	169	108	119	165	106	120	91	122	82	82	92
Finland	*159*	*150*	*126*	*105*	*165*	*191*	*184*	*123*	179	*157*	*138*	121	111	151	146	125	100
France	99	119	140	153	151	174	125	87	84	82	50	87	75	90	99	94	82
Germany	120	103	111	95	109	103	90	77	72	68	57	58	57	68	73	79	74
Greece	*150*	*120*	105	54	116	111	144	91	54	82	69	72	75	96	93	79	110
Iceland	167	203	207	200	211	228	226	238	149	*134*	*121*	109	150	207	156	*156*	*156*
Italy	108	120	164	90	104	113	129	109	129	*135*	*100*	89	90	101	113	114	106
Luxembourg	*150*	*150*	*150*	*150*	172	194	127	115	110	119	*119*	119	*107*	96	114	*114*	*114*
Netherlands	66	*70*	74	66	*60*	79	52	64	38	33	*33*	*33*	*33*	50	*59*	*59*	*59*
Norway	176	170	255	156	145	*150*	153	177	133	128	114	157	165	170	155	*155*	*155*
Portugal	63	57	60	57	59	66	64	57	51	43	56	48	36	47	49	55	49
Spain	110	100	100	63	78	91	72	68	68	63	52	52	56	70	76	76	76
Sweden	*160*	*152*	*183*	*123*	*148*	118	118	98	88	97	77	79	87	99	93	92	*92*
Switzerland	178	144	188	136	146	148	127	117	110	*109*	77	69	74	89	*86*	*86*	*86*
United Kingdom	131	127	69	123	113	111	102	124	128	104	94	94	84	90	91	79	*91*
Ireland	*141*	*137*	*120*	*110*	*100*	119	32	34	32	30	*28*	*28*	*94*	79	87	88	88
Average unweighted in US$	133	129	133	110	124	134	119	103	95	95	80	81	84	98	96	94	93
Inflation adjusted in US$	**206**	**191**	**191**	**154**	**169**	**178**	**153**	**130**	**117**	**114**	**94**	**92**	**94**	**107**	**102**	**97**	**93**
Weighted average US$	117	115	118	104	112	118	105	92	92	88	70	74	72	84	88	87	85
Inflation adjusted in US$	**180**	**170**	**169**	**145**	**152**	**157**	**135**	**116**	**113**	**106**	**82**	**85**	**80**	**92**	**94**	**89**	**85**
Weighted average in Euro	92	93	91	89	94	91	83	81	82	82	76	83	76	74	71	70	67
Inflation adjusted in Euro	**132**	**127**	**120**	**113**	**117**	**109**	**98**	**94**	**94**	**93**	**84**	**90**	**81**	**77**	**73**	**71**	**67**

Sources: ARQ data and EUROPOL and in italic UNODC; data for Europe for 2006: Europol ** Data available till November 2006

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
USA	184	177	170	147	137	131	126	127	124	118	129	98	86	75	87.3	103.7	
Adjusted for inflation	**284**	**262**	**245**	**205**	**186**	**174**	**162**	**159**	**154**	**142**	**151**	**111**	**96**	**82**	**93**	**107**	

Sources: ONDCP 1990-2000 (prices for 1 gram or less, at street purity), ONDCP, ONDCP, The Price & Purity of Illicit Drugs 1981-2003 (prices for < 2 grams) for 2001-03, Community Epidemiology Network - June 2005 (for 2004) and UNODC, ARQ data for 2005.

Wholesale price, US$/kg

EUROPE	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006**
Austria	*66,000*	*66,000*	54,000	40,000	41,946	52,084	45,875	56,723	54,440	38,859	47,094	43,995	42,385	59,300	55,894	59,757	56,460
Belgium	*25,000*	24,000	38,250	28,000	26,920	30,560	21,927	17,025	19,167	23,859	22,376	26,771	28,111	29,610	32,480	*32,480*	*32,480*
Denmark	*80,000*	85,000	85,000	82,500	58,516	60,034	46,141	38,640	44,517	78,900	43,462	47,839	37,823	53,160	45,896	50,321	46,005
Finland	*79,500*	75,000	*62,750*	*52,500*	*82,500*	*95,450*	*91,750*	*61,550*	*89,350*	*78,460*	*68,321*	*59,492*	*51,804*	62,150	68,315	*68,315*	*68,315*
France	117,000	38,250	45,000	38,250	40,000	39,877	48,077	43,554	42,159	27,714	*27,000*	34,978	37,676	45,200	49,683	50,321	40,776
Germany	69,000	53,100	60,300	54,142	57,692	54,676	53,925	45,294	41,210	39,639	33,752	33,235	34,476	40,110	44,243	46,525	45,320
Greece	*75,000*	*90,000*	95,000	36,000	46,413	53,098	72,015	43,795	49,180	49,320	41,237	40,359	42,385	53,680	57,446	62,902	62,733
Italy	54,000	48,000	94,000	41,935	51,097	51,455	55,633	50,629	49,091	47,250	*46,000*	40,529	41,412	47,440	51,759	52,188	52,530
Luxembourg	*93,919*	95,939	113,521	50,847	157,593	141,343	47,625	43,103	41,072	47,718	*47,718*	*47,718*	*47,718*	*47,718*	31,052	31,450	*31,450*
Netherlands	26,500	*28,000*	29,500	26,500	24,680	33,232	23,894	29,698	22,355	27,500	*27,500*	*27,500*	*27,500*	27,400	33,775	*33,775*	*33,775*
Norway	120,000	*120,000*	127,500	*110,000*	39,971	*50,000*	41,670	60,028	81,699	57,545	51,417	51,569	54,159	56,500	65,209	*65,209*	*65,209*
Portugal	39,500	39,285	33,000	27,000	27,950	34,483	42,591	37,908	33,447	30,000	*28,000*	29,080	*31,046*	32,410	36,399	*36,399*	*36,399*
Spain	65,000	60,000	55,000	35,000	36,434	41,322	38,760	36,806	38,924	38,898	30,882	38,898	31,511	38,830	42,167	41,321	41,862
Sweden	*80,000*	*85,000*	*91,375*	*61,450*	*73,825*	55,556	59,255	45,573	50,484	48,508	38,394	34,693	35,763	43,130	39,560	40,068	*40,068*
Switzerland	63,900	94,250	116,250	50,847	72,012	75,949	51,587	40,780	41,152	*41,000*	35,482	23,392	19,274	37,230	44,008	*44,008*	*44,008*
United Kingdom	47,850	46,475	20,625	43,210	*45,000*	46,774	40,625	47,500	47,500	33,981	38,168	36,008	35,848	40,880	50,036	*50,036*	*48,400*
Ireland	45,000	*45,000*	*40,000*	*50,000*	*45,000*	*42,000*	31,646	33,733	31,530	29,891	*29,891*	*29,891*	*29,891*	30,510	*30,510*	*30,510*	*30,510*
Average unweighted in US$	67,481	64,312	68,298	48,717	54,562	56,347	47,823	43,079	45,722	43,473	38,629	37,997	36,987	43,839	45,790	46,799	45,665
Inflation adjusted in US$	**104,060**	**95,169**	**98,115**	**67,950**	**74,203**	**74,519**	**61,433**	**54,097**	**56,535**	**52,593**	**45,213**	**43,242**	**41,438**	**48,020**	**48,856**	**48,297**	**45,665**
Weighted average US$	67,793	51,895	57,392	43,998	47,040	48,150	47,754	43,975	43,434	38,491	35,580	36,095	35,950	42,322	46,832	47,692	45,703
Adjusted for inflation (kg)	**104,542**	**76,794**	**82,446**	**61,368**	**63,974**	**63,679**	**61,343**	**55,222**	**53,706**	**46,565**	**41,644**	**41,078**	**40,276**	**46,358**	**49,968**	**49,218**	**45,703**
inflation adjusted (gram)	**105**	**77**	**82**	**61**	**64**	**64**	**61**	**55**	**54**	**47**	**42**	**41**	**40**	**46**	**50**	**49**	**46**
Weighted in Euro (g)	**53**	**42**	**44**	**38**	**40**	**37**	**38**	**39**	**39**	**36**	**38**	**40**	**38**	**37**	**38**	**38**	**36**
Inflation adjusted in Euro (g)	**77**	**57**	**58**	**48**	**49**	**45**	**44**	**45**	**44**	**41**	**43**	**44**	**41**	**39**	**39**	**39**	**36**

Sources: ARQ data and EUROPOL and in italic UNODC; data for Europe for 2006: Europol ** Data available till November 2006

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
USA	45,430	48,300	48,100	44,730	42,180	38,640	35,700	34,320	31,960	30,870	29,580	21,500	23,000	21,500	22,066	20,500	
Adjusted for inflation (kg)	**70,057**	**71,475**	**69,099**	**62,390**	**57,364**	**51,102**	**45,859**	**43,098**	**39,519**	**37,346**	**34,622**	**24,468**	**25,768**	**23,551**	**23,544**	**21,156**	
Adjusted for inflation (gram)	**70**	**71**	**69**	**62**	**57**	**51**	**46**	**43**	**40**	**37**	**35**	**24**	**26**	**24**	**24**	**21**	

Sources: ONDCP 1990-2000 (prices for 10-100 gram, at street purity), UNODC ARQ 2001-2005 (mid-point of min/max prices).

COCAINE

Retail and wholesale prices and purity levels: breakdown by drug, region and country or territory

(prices expressed in US$ or converted equivalent, and purity levels in percentage)

	RETAIL PRICE (per gram)				WHOLESALE PRICE (per kilogram)			
Region / country or territory	Typical	Range	Purity	Year	Typical	Range	Purity	Year
Africa								
East Africa								
Kenya	32.3	25.8 - 38.8		2004	45,208.0	38,749.7 - 51,666.2	40.0 - 50.0	2004
North Africa								
Egypt	77.1	68.5 - 85.6		2005	59,930.0	51,370.0 - 68,490.0		2005
Southern Africa								
Namibia	84.5	50.7 - 84.5	10.0 - 33.0	2005	68,119.9			2004
(Crack)	16.9	15.2 - 16.9	9.0 - 19.0	2005	15,137.8		70.0	2004
South Africa	38.9			2004				
(Crack)	14.5			2004				
Zambia	35.4			2004	35,381.4	33,898.3 - 37,076.3		2004
Zimbabwe	60.3	54.8 - 65.7		2004				
West and Central Africa								
Burkina Faso (Coca Base)	49.8			2005				
Cameroon	29.9			2005				
Congo R.(Coca Base)	6.0	6.0 - 10.0		2005	3,708.1	1,854.1 - 3,708.1		2004
Ghana	18.8			2005	16,500.0	15,000.0 - 18,000.0	70.0 - 96.0	2004
Guinea	20.0	18.0 - 22.0		2005	20,833.0	18,000.0 - 20,833.0		2005
Nigeria	14.4	13.7 - 15.2		2005	14,415.8	13,657.1 - 15,174.5		2005
Togo	29.9	29.9 - 33.9		2005				
Americas								
Caribbean								
Anguilla	17.5	15.0 - 20.0		2005	17,500.0	15,000.0 - 20,000.0		2005
Bahamas	20.0	20.0 - 50.0		2004	9,000.0	9,000.0 - 15,000.0		2004
(Crack)	5.0	5.0 - 10.0		2004				
Dominica	57.5	55.0 - 60.0		2004	38,000.0	35,000.0 - 50,000.0	80.0 - 98.0	2005
(Crack)	55.0		60.0 - 98.0	2005				
Dominican R.	7.8			2005	7,800.0			2005
Grenada	36.9	33.2 - 44.3		2005	9,223.4	8,116.6 - 9,961.2		2005
(Crack)	33.2	29.5 - 36.9		2005				
Haiti	10.0	8.0 - 12.0		2004	6,500.0	5,000.0 - 8,000.0		2004
Jamaica (Coca base)					9,250.0	9,000.0 - 9,500.0	90	2004
Montserrat (Coca Base)	59.0	55.9 - 62.1		2004	8,880.9	8,197.7 - 9,564.0		2004
St. Lucia	9.3	7.5 - 11.2		2004	21,115.4	24,841.6 - 31,052.0		2004
St. Vincent & Grenadines					5,534.0	5,534.0 - 7,378.7		2005
Trinidad Tobago	64.4			2005	4,100.0	3,500.0 - 4,700.0	1.0 - 95.0	2005
Turks and Caicos Islands	20.0			2005	8,000.0	7,000.0 - 9,000.0		2005
(Crack)	10.0			2005				
Central America								
Belize	7.5	7.5 - 12.5	90.0 - 96.0	2005	6,015.0	5,012.5 - 7,518.8	90.0 - 96.0	2004
(Crack)	5.0	5.0 - 10.0	90.0 - 96.0	2005	30,000.0	30,000.0 - 35,000.0		2004
Costa Rica	6.0	5.4 - 6.5		2005	4,130.3	3,912.9 - 4,347.6	53.0 - 90.0	2005
(Crack)	1.3	0.5 - 2.1		2005				
El Salvador	24.0	23.0 - 25.0		2005	24,000.0	23,000.0 - 25,000.0		2005
(Crack)	24.0	23.0 - 25.0		2005	24,000.0	23,000.0 - 25,000.0		2005
Guatemala	6.4	6.4 - 7.7	65.0 - 70.0	2005	12,853.5	10,282.8 - 11,568.1	83.0 - 98.0	2005
(Crack)	3.9	3.9 - 6.4	50.0 - 55.0	2005	9,640.1	3,213.4 - 9,640.1	50.0 - 55.0	2005
Honduras	11.8	7.9 - 15.8	30.0 - 45.0	2005	10,473.0	8,950.0 - 15,000.0	90.0 - 96.0	2005
(Crack)	5.3	2.6 - 7.9	35.0 - 50.0	2005				
Panama	2.0		1.0 - 100.0	2005	2,500.0			2005
(Crack)	1.0		1.0 - 100.0	2005	2,500.0		50.0 - 60.0	2005
North America								
Canada	64.5	64.5 - 80.7	99.0	2005	32,258.1	28,225.8 - 48,387.1	99.0	2005
(Crack)	121.0	80.7 - 161.3	38.0 - 100.0	2005	25,806.5	24,193.6 - 32,258.1	39.0 - 100.0	2005
Mexico					7,880.0			2005
United States	110.0	20.0 - 200.0		2005	20,500.0	7,000.0 - 34,000.0		2005
(Crack)	110.0	20.0 - 200.0		2005	24,000.0	14,000.0 - 34,000.0		2005

COCAINE

Retail and wholesale prices and purity levels: breakdown by drug, region and country or territory

(prices expressed in US$ or converted equivalent, and purity levels in percentage)

	RETAIL PRICE (per gram)				WHOLESALE PRICE (per kilogram)			
Region / country or territory	Typical	Range	Purity	Year	Typical	Range	Purity	Year
South America								
Argentina	5.9	3.5 - 8.3		2004	4,800.0	2,600.0 - 7,000.0		2004
Bolivia	9.0		90.0	2005	1,300.0			2005
Brazil	12.0	10.0 - 13.0	15.0 - 36.0	2005	3,000.0	2,000.0 - 7,000.0	80.0 - 98.0	2005
(Crack)	6.0	3.0 - 8.0		2005	2,000.0	1,500.0 - 3,000.0		2005
Chile	10.1	6.9 - 13.8		2005	23,017.2	2,931.0 - 43,103.5		2005
(Coca Base)	1.7	1.4 - 1.7		2005	4,956.9	1,293.1 - 8,620.7		2005
Colombia	2.0			2005	2,082.1			2005
(Coca Base)					810.0	711.0 - 949.0		2004
Ecuador					4,000.0	3,000.0 - 4,500.0		2005
(Coca Base)	2.0	1.0 - 3.0		2005	1,900.0	1,800.0 - 2,000.0		2005
Guyana	5.0			2005	4,900.0	4,600.0 - 5,000.0		2005
(Crack)	4.5			2005	4,500.0	4,400.0 - 4,600.0		2005
Paraguay					6,930.0			2004
Uruguay	13.2	10.1 - 16.2	15.0 - 25.0	2005	6,000.0	5,000.0 - 7,000.0	30 (25-35)	2004
Asia								
East and South-East Asia								
Hong Kong SAR, China	96.1	51.6 - 209.2		2005	34,954.0	25,673.9 - 46,213.1		2004
Indonesia	112.9	107.5 - 118.3		2005				
Japan	242.7	194.2 - 291.3		2005	46,380.0			2004
Malaysia					20,000.0			2005
Philppines	90.7			2005	90,661.8			2005
Singapore	167.1	147.9 - 184.7		2005				
Thailand	65.2	52.1 - 78.2		2005				
Near and Middle East /South-West Asia								
Bahrain	159.1	132.6 - 185.6		2005				
Iran	126.3			2005				
Israel	70.0	30.0 - 100.0		2005	45,000.0	36,000.0 - 56,000.0		2005
Jordan	77.2	84.3 - 98.3		2005	66,008.5	63,199.6 - 70,221.8		2005
Lebanon	70.0	50.0 - 90.0	70 (50-90)	2005	65,000.0	50,000.0 - 80,000.0	85 (80-90)	2005
Syrian Arab Republic (Coca Base)	100.0	80.0 - 120.0	50 (40-60)	2005	60,000.0	50,000.0 - 70,000.0	60 (60-80)	2005
Europe								
East Europe								
Belarus	123.0	110.0 - 135.0		2005	60,000.0			2005
Moldova R.	96.1	7.7 - 112.1		2005	100,000.0	80,000.0 - 120,000.0		2005
Russian Federation	159.0	78.5 - 279.2	38.0 - 54.0	2005	107,309.1	61,082.0 - 244,328.1	62.0 - 81.0	2005
Southeast Europe								
Albania	70.0	60.0 - 80.0		2005	46,000.0	43,000.0 - 49,000.0		2005
Bulgaria	84.0	53.8 - 235.2	15.0 - 91.0	2005	109,207.0	30,241.9 - 188,172.0	15.0 - 91.0	2005
Croatia	78.1	69.4 - 86.8	20.0 - 40.0	2005	39,062.5	34,722.2 - 43,402.8	60.0 - 80.0	2005
FYR of Macedonia	50.3	37.7 - 62.9		2005	34,596.0	31,450.9 - 37,741.1		2005
Romania	113.2			2005	62,901.8	44,031.3 - 62,901.8		2005
Serbia and Montenegro	74.5	62.1 - 87.0		2004	49,683.3	37,262.5 - 62,104.0		2004
Turkey	113.2	100.6 - 125.8		2005	8,177.2	84,917.4 - 94,352.7		2005
West and Central Europe								
Andorra	69.2	62.9 - 75.5		2005				
Austria	97.5	81.8 - 113.2	36.0 (3-95)	2005	62,901.8	50,321.4 - 75,482.1	1.0 - 94.0	2005
Belgium					32,480.4			2004
Cyprus	150.7			2005	47,351.2			2005
Czech Republic	98.2	65.0 - 130.1	12.0 - 100.0	2005	76,249.6	65,040.5 - 99,762.2	12.0 - 100.0	2005
(Coca Base)	85.7			2004	51,293.0			2004
Denmark	81.8			2005	50,321.4			2005
Estonia	75.5			2005	29,878.4			2005
Finland	100.6	75.5 - 125.8		2005	56,611.6	50,321.4 - 62,901.8	13.0 - 78.0	2005
France	88.1	75.5 - 100.6	10.0 - 40.0	2005	37,741.1	33,967.0 - 50,321.4	20.0 - 80.0	2005
(Crack)	72.3			2005				
Germany	79.1		33	2005	46,524.7			2005
(Crack)	76.5			2005				

COCAINE

Retail and wholesale prices and purity levels: breakdown by drug, region and country or territory

(prices expressed in US$ or converted equivalent, and purity levels in percentage)

	RETAIL PRICE (per gram)				WHOLESALE PRICE (per kilogram)			
Region / country or territory	Typical	Range	Purity	Year	Typical	Range	Purity	Year
Greece	110.1	94.4 - 125.8		2005	62,901.8	50,321.4 - 75,482.1	68.0 - 100.0	2005
Hungary	75.0			2005	46,674.4			2005
(Crack)	63.9	97.0 - 137.4		2005				
Iceland	143.3			2005				
Ireland	88.1			2005				
Italy	109.3	96.8 - 121.9		2005	52,287.2	46,861.7 - 57,712.6		2005
Latvia	80.5	66.3 - 94.7	22.0 - 66.0	2005	66,046.9			2005
Lithuania	65.6	58.3 - 65.6	13.0 - 86.0	2005				
Luxembourg	115.3	25.2 - 151.0	28.0 - 95.0	2004	31,450.9			2005
Malta	107.4			2005	94,902.4			2005
Netherlands	62.9	50.3 - 75.5		2005	30,821.9	28,934.8 - 32,708.9		2005
Norway	157.3	125.8 - 188.7	20.0 - 80.0	2005	66,046.9	44,031.3 - 88,062.5	20.0 - 80.0	2005
Poland	62.7			2005	37,801.5			2005
(Crack)	94.4	88.1 - 100.6		2005				
Portugal	55.5			2005	36,399.2			2004
Slovakia	70.0	58.6 - 81.4		2005	40,711.3	24,426.8 - 48,853.6		2005
Slovenia	64.2			2005	37,929.8			2005
Spain	76.0		53.0	2005	41,210.7		75	2005
Sweden	100.7	71.9 - 129.5		2005	50,359.7	43,165.5 - 57,554.0		2005
Switzerland	93.2	29.7 - 169.5		2005	47,457.6	25,423.7 - 67,796.6	70 (40-99)	2005
United Kingdom	92.5	37.7 - 204.6	1.0 - 99.0	2005	46,226.4	26,415.1 - 66,037.7	7.0 - 94.0	2005
(Crack)	35.9	9.4 - 150.9	6.0 - 99.0	2005	50,943.4	33,962.3 - 67,924.5	48.0 - 89.0	2005
OCEANIA								
Australia	252.1	116.4 - 387.9		2005	162,387.3	130,220.0 - 244,160.0		2004
New Zealand	714.3	500.0 - 857.1	60.0 - 80.0	2005				

3.4.3 Cannabis: Wholesale, street prices and purity levels

CANNABIS HERB

Retail and wholesale prices and purity levels:
breakdown by drug, region and country or territory

(prices expressed in US$ or converted equivalent, and purity levels in percentage)

	RETAIL PRICE (per gram)				WHOLESALE PRICE (per kilogram)			
Region / country or territory	Typical	Range	Purity	Year	Typical	Range	Purity	Year
Africa								
East Africa								
Eritrea	3.3	3..33 - 4.3	5.0	2005	400.0	400.0 - 466.7		2005
Kenya	0.2	0.1 - 0.3		2004	96.9	64.6 - 129.2		2004
Madagascar	0.02	0.02 - 0.1	2.0 - 10.0	2005	15.1	18.9 - 25.2	2.0 - 10.0	2005
Rwanda	0.13	0.1 - 0.2		2004				
Seychelles								
Uganda	0.06	0.09 - 0.1		2005	150.0	100.0 - 200.0		2005
North Africa								
Egypt	2.6	1.7 - 3.4		2005	50.0	40.0 - 60.0		2005
Southern Africa								
Malawi	0.07	0.05 - 0.09	35.0 - 50.0	2005	3.8	4.7 - 6.6	70.0 - 90.0	2005
Namibia	0.5	0.3 - 0.8		2005	45.4	53.0 - 68.1		2004
South Africa	0.2	0.2 - 0.3		2004	22.7	15.1 - 30.3		2004
Swaziland								
Zambia	0.2			2004				
Zimbabwe	0.4	0.3 - 0.5		2005	43.8	32.9 - 54.8		2004
West and Central Africa								
Burkina Faso	0.2	0.2 - 0.5	100.0	2005	12.0	15.9 - 19.9		2005
Cameroon	0.02			2005				
Congo Rep.	0.2	0.2 - 0.4	100.0	2004	29.9	23.2 - 29.9		2005
Gabon	0.4	0.2 - 0.9		2004	185.4			2004
Ghana	4.0	3.0 - 5.0		2004				
Guinea	0.01			2005	13.5	12.0 - 15.0		2005
Nigeria	2.20	2.1 - 2.3	100.0	2005	12.1	11.4 - 12.9		2005
Togo	0.1	0.1 - 0.2		2005	140.0		30.0	2004
Americas								
Caribbean								
Anguilla	12.5	10.0 - 15.0		2005	12,500.0	10,000.0 - 15,000.0		2005
Bahamas	5.0	5.0 - 10.0		2004	1,800.0	1,800.0 - 2,200.0		2004
Dominica	32.5	25.0 - 40.0		2005	2,150.0	1,800.0 - 2,500.0		2005
Dominican Rep.	0.6			2005	250.0			2005
Grenada	1.8	1.1 - 3.0		2005	295.2	221.4 - 442.7		2005
Haiti	0.6	0.5 - 0.6		2004	55.0	50.0 - 60.0		2004
Jamaica					99.0	33.0 - 165.0	60.0 - 80.0	2004
Montserrat	24.0	22.1 - 25.8		2005	295.2	258.3 - 332.0		2005
St. Lucia	3.7	3.7 - 5.6		2004	298.5	559.7 - 671.6		2004
St. Vincent & Grenadines					368.9	295.2 - 442.7		2005
Trinidad Tobago	1.6			2005	325.0	300.0 - 350.0	100.0	2005
Turks & Caicos Islands	10.0			2005	700.0	600.0 - 900.0		2005
Central America								
Belize	0.5	0.5 - 2.5	90.0 - 98.0	2005	162.9	125.3 - 200.5	90.0 - 98.0	2005
Costa Rica	0.8	0.5 - 1.1		2005	217.4	173.9 - 260.9		2005
El Salvador	1.0	1.0 - 1.1		2005	750.0	700.0 - 800.0		2005
Guatemala	2.6	2.6 - 3.2	100.0	2005	104.8	109.3 - 115.7	100.0	2005
Honduras	0.3	0.3 - 0.4	90.0 - 95.0	2005	92.6	69.5 - 115.8		2005
Panama	10.0		100.0	2005	50.0		100.0	2005
North America								
Canada	8.1	8.1 - 20.2	35.0	2005	3,225.8	2,419.4 - 4,838.7	53.0	2005
Mexico					79.0		100.0	2005
United States	15.0	10.0 - 25.0	2.0 - 13.0	2005	10,237.5	975.0 - 19,500.0	4.0 - 13.0	2005
South America								
Argentina	1.3	1.0 - 1.6		2004	400.0	300.0 - 500.0		2005
Bolivia	1.2		100.0	2005	145.0		100.0	2005
Brazil	0.3	0.3 - 0.8	80.0 - 90.0	2005	150.0	100.0 - 180.0	4.0	2005
Chile	5.2	1.7 - 8.6		2005	689.7	517.2 - 862.1		2005
Colombia	0.4			2005	40.3			2005
Ecuador	1.0	1.0 - 2.0		2005	450.0	400.0 - 500.0		2005
Guyana	0.5			2005	440.0	435.0 - 445.0		2005
Paraguay					30.0			2004
Uruguay	1.0	0.8 - 1.2	10.0 - 20.0	2005				

CANNABIS HERB

Retail and wholesale prices and purity levels: breakdown by drug, region and country or territory

(prices expressed in US$ or converted equivalent, and purity levels in percentage)

	RETAIL PRICE (per gram)				WHOLESALE PRICE (per kilogram)			
Region / country or territory	Typical	Range	Purity	Year	Typical	Range	Purity	Year
Asia								
Central Asia and Transcaucasia								
Armenia	2.5		70.0 - 80.0	2005	1,500.0			2005
Georgia	3.0	1.0 - 4.0		2004				
Kazakhstan	2.5			2004	244.5	30.0 - 1,000.0		2005
Kyrgyzstan	0.05	0.03 - 0.06		2005	30.0	20.0 - 40.0		2005
Tajikistan				2004	140.0	117.0 - 161.0		2004
Uzbekistan								
East and South-East Asia								
Brunei Darussalam	50.7			2005				
China	0.8	0.6 - 1.2		2004				
Hong Kong SAR, China	7.4	3.0 - 16.8		2005	1,717.8	967.7 - 2,322.6		2005
Indonesia	0.2	0.2 - 0.3		2005				
Japan	58.3	19.4 - 116.5		2005	5,145.6	2,427.2 - 7,767.0		2005
Laos					14.0	14.0 - 16.0		2004
Macau SAR, China	12.0	10.0 - 15.0		2005	2,350.0	2,200.0 - 2,500.0		2004
Malaysia					585.1	315.0 - 631.0		2005
Myanmar	0.1			2005	120.0	100.0 - 130.0		2005
Philippines	0.5	0.4 - 0.9		2005	453.3	362.7 - 906.6	100.0	2005
Republic of Korea	6.1	2.0 - 11.8		2005	980.4			2005
Singapore	20.5			2005	2,024.6	1,840.5 - 2,208.6		2005
Thailand	0.4	0.2 - 0.5		2005				
Near and Middle East /South-West Asia								
Israel	3.0			2005	180.0	80.0 - 400.0		2005
South Asia								
Bangladesh	0.3	0.2 - 0.3	6.0 - 8.0	2005	120.0	100.0 - 140.0	6.0 - 8.0	2005
India					46.1	34.6 - 115.3		2005
Sri Lanka	0.015	0.01 - 0.02		2005				
Europe								
East Europe								
Belarus	3.0	1.0 - 7.5		2005	1,400.0	550.0 - 2,000.0		2005
Moldova R.	1.6	1.2 - 2.4		2005				
Russian Federation	4.0	0.3 - 7.5	1.0 - 3.0	2005	1,940.0	3,490.4 - 8,586.4	1.0 - 3.0	2005
Southeast Europe								
Albania	1.0	1.0 - 1.5		2005	115.0	100.0 - 130.0		2005
Bulgaria	1.0	0.9 - 1.2		2004				
Croatia	3.5	2.6 - 6.1		2005	564.2	520.8 - 607.6		2005
FYR of Macedonia	1.6	1.3 - 1.9		2005	471.8	314.5 - 629.0		2005
Romania	8.8	6.3 - 12.6		2005	881.0			2005
Serbia and Montenegro	4.3	2.5 - 6.2		2004	105.6	87.0 - 124.2		2004
Turkey	7.6	2.5 - 5.0		2005	440.3	377.4 - 503.2		2005
West & Central Europe								
Andorra	7.6			2005				
Austria	4.4	3.8 - 5.0	27.0	2005	1,069.3	880.6 - 1,258.0	19.0	2005
Belgium	6.2			2004	2,670.5			2004
Cyprus	10.8			2005	3,228.1			2005
Czech Republic	7.3	0.9 - 15.2	21.0	2005	4,428.3	880.6 - 10,819.1	11.0	2005
Estonia	10.1			2005	2,830.6			2005
Finland	22.0	18.9 - 25.2	3.2 (0.1-14)	2005	11,322.3		14.0	2005
France	7.6	6.3 - 8.8		2005	3,145.1	2,641.9 - 5,032.1	2.0 - 16.0	2005
Germany	9.1		11.0	2005	4,289.9			2005
Greece	2.8	1.9 - 3.8		2005	629.0	377.4 - 880.6		2005
Hungary	11.0	10.6 - 11.5	6.00	2005	2,780.3			2005
Iceland								
Ireland	3.7	2.5 - 5.0		2005				
Italy	7.8	6.4 - 7.8		2005	1,410.5	1,155.0 - 1,666.0		2005
Latvia	18.9			2005	5,681.8			2005
Liechtenstein	6.8	5.1 - 8.5		2005				
Lithuania	10.9	5.5 - 14.6		2005				
Luxembourg	9.2		1.0 - 22.0	2005	4,403.1	3,774.1 - 5,032.1		2005
Malta	2.3			2005	1,100.0	1,000.0 - 1,200.0	10.0	2005
Netherlands	9.8	4.4 - 15.1		2005	3,270.9	2,641.9 - 3,899.9		2005
Norway								

CANNABIS HERB

Retail and wholesale prices and purity levels:
breakdown by drug, region and country or territory

(prices expressed in US$ or converted equivalent, and purity levels in percentage)

	RETAIL PRICE (per gram)				WHOLESALE PRICE (per kilogram)			
Region / country or territory	Typical	Range	Purity	Year	Typical	Range	Purity	Year
Poland	7.9	3.2 - 12.6		2005	2,753.8			2005
Portugal	4.0			2005	930.3			2004
Slovakia	6.5	3.3 - 9.8	32.0	2005	2,442.7	1,628.5 - 3,256.9		2005
Slovenia	6.9			2005	1,346.1			2005
Spain	3.5			2005	2,059.4			2005
Sweden	11.5	8.6 - 14.4		2005				
Switzerland	6.4	3.4 - 17.0	1.0 - 25.0	2005	4,661.0	2,118.6 - 8,474.6		2005
United Kingdom	5.0			2005	2,743.8	943.4 - 4,717.0		2005
Oceania								
Australia	26.2	15.5 - 31.0		2005	5,042.7	3,879.0 - 6,206.4		2004
Marshall Isl.					575.0	500.0 - 650.0		2004
New Zealand	16.1	14.3 - 17.9		2005	6,071.4	5,000.0 - 7,142.9	3.0	2005

CANNABIS OIL

Retail and wholesale prices and purity levels:
breakdown by drug, region and country or territory

(prices expressed in US$ or converted equivalent, and purity levels in percentage)

	RETAIL PRICE (per gram)				WHOLESALE PRICE (per kilogram)			
Region / country or territory	Typical	Range	Purity	Year	Typical	Range	Purity	Year
Americas								
Caribbean								
Anguilla	12.5	10.0 - 15.0		2005	12,500.0	10,000.0 - 15,000.0		2005
Bahamas	35.0	20.0 - 50.0		2004	4,000.0	3,000.0 - 5,000.0		2004
North America								
Canada	20.2	16.1 - 40.3	49.0 - 63.0	2005	6,451.6	6,451.6 - 9,677.4	49.0 - 63.0	2005
Asia								
East and South-East Asia								
Philippines					3,989.1			2005
South Asia								
Maldives	11.6	9.3 - 14.0		2005	7,762.9	6,210.3 - 11,644.3		2005
Europe								
Southeast Europe								
Albania					1,250.0	1,000.0 - 1,500.0		2005
West and Central Europe								
Spain	13.2			2005	2,724.9			2005
Oceania								
New Zealand	89.3	35.7 - 142.9		2005	89,285.7	35,714.3 - 142,857.1		2005

CANNABIS RESIN
Retail and wholesale prices and purity levels: breakdown by drug, region and country or territory
(prices expressed in US$ or converted equivalent, and purity levels in percentage)

	RETAIL PRICE (per gram)				WHOLESALE PRICE (per kilogram)			
Region / country or territory	Typical	Range	Purity	Year	Typical	Range	Purity	Year
Africa								
East Africa								
Eritrea	6.7	6.7 - 10.0	2.0 - 10.0	2005	666.7	666.7 - 800.0		2005
Kenya	0.9	0.8 - 1.0		2004				
Madagascar	0.3	0.1 - 0.4		2004	125.8	88.1 - 188.7		2005
North Africa								
Egypt	2.6	1.7 - 3.4		2005	2,740.0	1,370.0 - 4,110.0		2005
Libya	15.4	6.9 24.0		2005	1,378.0	1,181.1 - 1,574.8		2005
Southern Africa								
South Africa	7.8			2004				
Zambia	0.4			2004				
West and Central Africa								
Congo Rep.	0.3	0.3 - 0.5		2004	27.8	37.1 - 46.4		2004
Americas								
Caribbean								
Bahamas	20.0	20.0 - 50.0		2004				
Turks & Caicos Islands	15.0			2004	800.0	600.0 - 900.0		2004
North America								
Canada	8.1	8.1 - 20.2	1.0 - 83.0	2005	8,064.5	7,258.1 - 9,677.4	1.0 - 83.0	2005
South America								
Brazil	2.0	1.5 - 3.0		2005				
Colombia	1.9			2004				
Asia								
Central Asia and Transcaucasia								
Armenia	15.0		70.0 - 80.0	2005	10,000.0		85.0	2005
Georgia	5.0	3.0 - 10.0		2004				
Kazakhstan	3.5	1.5 - 7.2		2004	3,568.8	300.0 - 25,000.0		2005
Kyrgyzstan	1.3	1.0 - 1.5		2005	1,800.0	1,250.0 - 2,500.0		2005
Tajikistan	2.0	1.0 - 3.0		2005	400.0	150.0 - 800.0		2005
Uzbekistan								
East and South-East Asia								
Hong Kong SAR, China	12.0	5.4 - 17.2		2005	1,774.2	1,290.3 - 1,935.5		2005
Indonesia	7.3	6.5 - 8.1		2005				
Japan	55.7	27.8 - 139.2		2004	5,825.2			2005
Macau SAR, China	12.0	10.0 - 15.0		2005				
Philippines	0.5	0.4 0.5		2005	453.3	362.7 - 544.0	100.0	2005
Republic of Korea	39.2	29.4 - 49.0		2005				
Near and Middle East /South-West Asia								
Afghanistan	0.05	0.04 0.1		2005	47.0	37.0 - 57.0		2005
Bahrain	106.07	79.55 - 132.6		2005	3,712.5	3,182.2 - 3,977.7		2005
Iran (Islamic Republic of)	0.5			2005	316.0			2005
Israel	6.0	3.0 - 10.0		2004	2,000.0	1,500.0 - 3,000.0		2005
Jordan	0.6	0.4 - 0.8		2005	702.3	561.8 - 842.7		2005
Lebanon	9.0	8.0 - 10.0	70.0 - 90.0	2005	300.0	200.0 - 400.0		2005
Oman	26.0			2005	2,075.8			2005
Pakistan	0.1			2005	92.9	80.5 - 105.3		2005
Syrian Arab Republic	1.0	0.8 - 1.2	70.0 - 95.0	2005	800.0	600.0 - 1,000.0	70.0 - 90.0	2005
United Arab Emirates	85.0	80.0 - 90.0		2005	1,850.0	1,500.0 - 2,200.0		2005
South Asia								
Bangladesh	1.2	1.0 - 1.4	7.0 - 10.0	2005	1,000.0	800.0 - 1,200.0	7.0 - 10.0	2005
India					345.8	276.6 - 691.6		2005

CANNABIS RESIN

Retail and wholesale prices and purity levels: breakdown by drug, region and country or territory

(prices expressed in US$ or converted equivalent, and purity levels in percentage)

	RETAIL PRICE (per gram)				WHOLESALE PRICE (per kilogram)			
Region / country or territory	Typical	Range	Purity	Year	Typical	Range	Purity	Year
Europe								
East Europe								
Belarus	14.0	10.0 - 17.5		2005	10,500.0	900.0 - 12,500.0		2005
Moldova R.	5.6	4.8 - 6.4		2005				
Russian Federation	12.1	1.1 - 29.7		2005	6,821.0	1,361.3 - 20,942.4		2005
Southeast Europe								
Albania					275.0	250.0 - 300.0		2005
FYR of Macedonia	2.8	1.9 - 3.8		2005	817.7	629.0 - 1,006.4		2005
Romania	7.6	5.0 - 7.6		2005	3,145.1	2,012.9 - 3,145.1		2005
Serbia and Montenegro	15.5	12.4 - 18.6		2004				
Turkey	6.3	8.8 - 7.6		2005	1,320.9	1,132.2 - 1,509.6		2005
West and Central Europe								
Austria	9.5	8.8 - 10.1	1.0 - 38.0	2005	2,830.6	2,516.1 - 3,145.1		2005
Belgium	6.8			2004	2,422.1			2004
Cyprus	12.9			2005	4,305.0			2005
Czech Republic	10.7	6.5 - 21.6	4.0 - 17.0	2005	6,164.4	2,138.7 - 10,819.1		2005
Denmark	7.0	4.4 - 19.3		2005	3,270.9			2005
Estonia	12.0			2005	2,830.6			2005
Finland	11.3	7.6 - 15.1		2005	3,459.6	2,516.1 - 4,403.1		2005
France	6.3	5.0 - 7.6		2005	1,887.1	1,635.5 - 2,516.1	6.0 - 16.0	2005
Germany	7.9			2005	2,854.5			2005
Greece	6.3	5.0 - 7.6		2005	1,824.2	1,132.2 - 2,516.1		2005
Hungary	11.9	11.7 - 12.0	6.0	2005	2,590.3			2005
Iceland	25.5			2004				
Ireland	8.8	7.5 - 12.6		2005				
Italy	9.2	8.3 - 10.2		2005	2,624.0	2,105.5 - 3,041.9		2005
Latvia	18.9	13.3 - 22.7		2005	3,984.2			2005
Liechtenstein	8.5	6.8 - 10.2		2005				
Lithuania	8.0	5.5 - 10.9		2005	3,899.9	3,170.3 - 4,629.6		2005
Luxembourg	9.2			2005	5,032.1			2005
Malta	10.2			2005	3,000.0	3,000.0 - 3,400.0	7.0 - 10.0	2005
Monaco	2.5			2005				
Netherlands	9.8	4.4 - 15.1		2005				
Norway	25.2	18.9 - 31.5		2005	3,774.2	2,138.7 - 5,409.6		2005
Poland	11.0	7.9 - 14.2		2005	2,701.5			2004
Portugal	2.5			2005	2,895.3			2004
Slovakia	14.7	9.8 - 19.5	3.0 - 29.0	2005	4,071.1	3,256.9 - 4,885.4		2005
Slovenia	12.6			2005	4,630.8	3,931.4 - 4,717.6		2005
Spain	5.4			2005	1,631.7			2005
Sweden	11.5	8.6 - 14.4		2005	4,316.6	2,877.7 - 5,755.4		2005
Switzerland	8.5	3.4 - 17.0	9.0 - 28.0	2005	4,830.5	1,694.9 - 8,474.6		2005
United Kingdom	3.7	1.7 - 13.3		2005	2,743.8			2005
Oceania								
Australia	18.5	19.4 - 38.8		2005				
New Zealand	24.8			2004				

3.4.3 Amphetamine-type stimulants: Wholesale, street prices and purity levels

AMPHETAMINE

Retail and wholesale prices and purity levels:
breakdown by drug, region and country or territory

(prices expressed in US$ or converted equivalent, and purity levels in percentage)

	RETAIL PRICE (per *)						WHOLESALE PRICE (per **)				
Region / country or territory	Typical	Range	Purity	Year			Typical	Range	Purity	Year	
Americas											
South America											
Chile	6.9	5.2 - 8.6		2005							
Asia											
Near and Middle East /South-West Asia											
Bahrain	2.7	2.1 - 3.9		2005	T						
Iran (Islamic Republic of)	9.7			2005	D		3,667.0			2005	
Jordan						TD	8,426.6	7,022.2 - 9,831.1		2005	
Oman	26.0		70.0	2005			25,947.7			2005	
Qatar											
Syrian Arab Republic	12.0	10.0 - 14.0		2005	D	TD	8,000.0	6,000.0 - 12,000.0		2005	
East and South-East Asia											
Indonesia	2.0	1.8 - 2.3		2005							
South Asia											
Maldives	77.6	77.6 - 232.9		2005			54,340.2	38,814.5 - 77,628.9		2005	
Europe											
Eastern Europe											
Belarus	29.0	20.0 - 43.0		2005			13,000.0	7,500.0 - 25,000.0		2005	
Moldova R.	25.1	21.0 - 29.3		2004			25,000.0	20,000.0 - 30,000.0		2005	
Southeast Europe											
Bulgaria	7.5	3.1 - 12.4	30 (10-73)	2004							
Croatia	26.0	17.4 - 34.7		2005			10,416.7	8,680.6 - 12,152.8		2005	
Romania	9.4			2005			6,290.2			2005	
Serbia and Montenegro	5.0	3.7 - 6.2		2004							
West and Central Europe											
Austria	25.2	18.9 - 31.5	1.0 - 100.0	2005			15,725.5	12,580.4 - 18,870.5	1.0 - 94.0	2005	
Belgium	8.7			2004	D		2,670.5			2004	
Cyprus	17.0			2004			7,416.5			2004	
Czech Republic	40.9	26.0 - 43.4	3.0 - 75.0	2005			21,638.2	21,638.2 - 34,696.6		2005	
Denmark	21.1	14.1 - 52.7		2005			10,064.3			2005	
Estonia	21.4			2005			2,830.6			2005	
Finland	25.2	18.9 - 31.5		2005			8,806.3	5,032.1 - 12,580.4	42.0 (0.1-93.0)	2005	
France	17.0	8.8 - 25.2		2004		TD	2,516.1	1,258.0 - 3,774.1		2005	
Germany	14.8			2004			6,470.1			2005	
Greece	7.6	6.3 - 8.8		2005	D		3,396.7	3,019.3 - 3,774.1	1.0 - 5.0	2005	
Hungary	15.1	14.7 - 15.5	1.0 - 54.0	2005			5,893.9			2005	
Iceland	55.2			2005							
Ireland	18.9			2005							
Italy	22.8	21.7 - 23.9		2005			6,080.5	5,870.9 - 6,290.2		2005	
Latvia	19.0	15.2 - 22.7	2.0 - 76.0	2005			3,787.9			2005	
Liechtenstein	10.2	8.5 - 11.9		2005							
Lithuania	8.7	5.5 - 14.6	76.0	2005			2,516.1	2,516.1 - 2,880.9	32 (0.42-76.5)	2005	
Luxembourg	6.3			2005	D						
Netherlands	12.6	6.3 - 18.9		2005							
Norway	78.6	31.0 - 124.2	20.0 - 80.0	2005			11,322.4	8,806.3 - 13,838.4	20.0 - 80.0	2005	
Poland	9.4	6.3 - 15.7	10.0 80.0	2005			3,231.0			2005	
Portugal	3.1			2004	D	TD	1,863.1			2004	
Slovenia	5.0			2005			4,352.8			2005	
Spain	30.3			2005			22,497.5			2005	
	6.0			2005	D						
Sweden	34.5	11.5 - 57.6		2005			10,071.9	5,755.4 - 14,388.5		2005	
Switzerland	25.4	10.2 - 42.4		2005							
United Kingdom	18.9	5.7 - 75.5	1.0 - 73.0	2005			3,584.9	1,509.4 5,660.4	4.0 - 74.0	2005	
Oceania											
Australia	209.5	31.0 - 387.9		2005			5,042.7	3,879.0 - 6,206.4		2004	

(*) in Gram or otherwise as indicated
(**) in Kilogram or otherwise as indicated

D : Doses unit
T : Tablets unit

TD: Thousand of doses
TT: Thousand of tablets

METHAMPHETAMINE

Retail and wholesale prices and purity levels: breakdown by drug, region and country or territory

(prices expressed in US$ or converted equivalent, and purity levels in percentage)

	RETAIL PRICE (*)						WHOLESALE PRICE (**)				
Region / country or territory	Typical	Range	Purity	Year			Typical	Range	Purity	Year	
Africa											
Southern Africa											
South Africa	7.1			2004			71.2			2004	
Americas											
North America											
Canada	74.7	74.7 - 149.5	84.0	2004			11,290.3	7,661.3 - 14,516.1	2.0 - 100.0	2005	
United States	160.0	20.0 - 300.0	73.0	2005							
Asia											
East and South-East Asia											
Brunei Darussalam	361.9			2005							
Cambodia	1.6	1.0 - 5.0		2005	T						
China	6.0	2.4 - 9.7	20.0	2004	T		6,650.0	6,000.0 - 12,000.0		2005	
China (Hong Kong SAR)	45.2	33.9 - 53.0	93.0 - 99.0	2005			13,602.2	5,161.3 - 32,903.2		2005	
Indonesia	44.4	40.3 - 48.4		2005							
	10.0	9.5 - 11.6		2005	T						
Japan	485.4	97.1 - 970.9		2005			32,038.8	11,650.5 - 53,398.1		2005	
Laos	1.0	0.9 - 1.1		2005	T		4,000.0	3,000.0 - 5,000.0	27.0	2004	
Macau SAR, China	18.0	12.0 - 25.0		2005							
Malaysia	5.3			2005	T		20,394.3	15,789.0 - 21,052.6		2005	
Myanmar	0.9	0.8 - 2.8		2005							
	2.0	1.8 - 2.2		2005	T						
Philippines	36.3	36.3 - 90.7		2005							
Republic of Korea	902.0	588.2 - 980.4	56.0	2005			12,745.1		26.0 - 99.0	2005	
Singapore	107.4	92.0 - 122.7	80.0	2005			105,828.3	101,227.0 - 110,429.5		2005	
	6.0	5.8 - 6.1	3.0	2005	T						
Thailand	84.7	78.2 - 91.2		2005							
	8.0	6.0 - 8.6		2005	T						
Near and Middle East /South-West Asia											
Bahrain	424.3	397.8 - 450.8		2005			39,777.3	26,518.2 - 53,036.3		2005	
Europe											
East Europe											
Belarus	33.0	20.0 - 43.0		2005			14,000.0	7,500.0 - 25,000.0		2005	
Moldova R.	4.0	3.6 - 4.8		2005			4,500.0	4,000.0 - 5,500.0		2005	
West and Central Europe											
Czech Republic	44.0	17.4 - 86.8	3.0 - 86.0	2005			30,922.5	12,957.8 - 43,402.2	67.0 - 78.0	2005	
France						TD	2,484.2	1,242.1 - 3,726.3		2004	
Latvia	19.0	15.2 - 22.7	14.0 - 84.0	2005			3,787.9			2005	
Liechtenstein	8.5	6.8 - 10.2		2005							
Lithuania	10.9	7.3 - 14.6	67.0	2005			2,516.1	2,000.3 - 3,849.6	29 (0.19-66.5)	2005	
Norway	78.7	31.5 - 125.8	10.0 - 80.0	2005			11,322.4	8,806.3 - 13,838.4	10.0 - 80.0	2005	
Slovakia	65.1	48.9 - 81.4	4.0 - 89.0	2005							
Spain	30.5			2005			22,367.9			2005	
Sweden	34.5	11.5 - 57.6		2005			10,071.9	5,755.4 - 14,388.5		2005	
Switzerland											
United Kingdom			39.8 (1 - 70)	2004							
Oceania											
Australia	188.8	66.0 - 295.0	33 (0.3 - 88)	2004			84,500.0	44,313.0 - 118,168.0	38 (3.7 - 77)	2004	
New Zealand	424.8	65.4 - 784.3		2004			253,605.0	230,550.0 - 276,660.0		2004	

(*) in Gram or otherwise as indicated

(**) in Kilogram or otherwise as indicated

D : Doses unit

T : Tablets unit

TD: Thousand of doses

TT: Thousand of tablets

ECSTASY

Retail and wholesale prices and purity levels: breakdown by drug, region and country or territory

(prices expressed in US$ or converted equivalent, and purity levels in percentage)

	RETAIL PRICE (per tablet)				WHOLESALE PRICE (per thousand tablets)			
Region / country or territory	Typical	Range	Purity	Year	Typical	Range	Purity	Year
Africa								
North Africa								
Egypt	18.8	12.0 - 25.7		2005	10,274.0	6,849.3 - 13,698.6		2005
Southern Africa								
Namibia	20.3	10.1 - 20.3		2005	18,165.3			2004
South Africa	14.6			2004				
Zimbabwe	19.7	17.5 - 21.9		2004				
West and Central Africa								
Ghana	6.0	5.0 - 7.0		2004				
Americas								
Caribbean								
Dominican R.	16.0			2005	16,000.0			2005
Jamaica					20,000.0	15,000.0 - 25,000.0		2004
Central America								
Costa Rica	16.3	10.9 - 21.7		2005				
North America								
Canada	8.1	4.0 - 16.1		2005	40,322.6	38,709.7 - 48,387.1	68.0 87.0	2005
United States	25.0	20.0 - 30.0		2004	10,000.0	5,000.0 - 13,000.0		2004
South America								
Argentina					4,666.0			2004
Brazil	12.0	7.0 - 25.0		2005	15,000.0	10,000.0 - 30,000.0		2004
Chile	18.4	12.1 - 34.5		2005	17,241.4			2005
Colombia	22.6			2005				
Ecuador	20.0	20.0 - 30.0		2005	20,000.0	20,000.0 - 30,000.0		2005
Uruguay					20,000.0	15,000.0 - 25,000.0		2004
Asia								
East and South-East Asia								
Brunei Darussalam	102.0			2004				
Cambodia	5.0	5.0 - 15.0		2005				
China	4.5	2.5 - 12.0		2005				
Hong Kong SAR, China	10.7	5.9 - 14.2		2005	3,354.8	1,548.4 - 5,806.5		2005
Indonesia	9.7	8.6 - 10.8		2005				
Japan	58.3	29.1 - 58.3		2005				
Republic of Korea	34.3	29.4 - 39.2		2005	1,960.8			2005
Macau SAR, China	22.0	18.0 - 31.0		2005				
Malaysia	19.0	9.2 - 21.0		2005				
Philippines	21.8			2005	21,758.8			2005
Singapore	16.9	15.3 - 18.4		2005	9,662.6	8,895.7 - 10,429.5		2005
Thailand	18.3	15.6 - 20.9		2005				
Vietnam	32.5	20.0 - 45.0		2005				
Near and Middle East /South-West Asia								
Iran (Islamic Republic of)	6.2			2005				
Israel	10.0	7.0 - 15.0		2005	6,000.0	4,500.0 - 11,000.0		2005
Europe								
East Europe								
Belarus	10.0	9.0 - 17.5		2005	5,500.0	5,000.0 - 9,000.0		2005
Moldova R.	12.0	2.4 - 20.0		2005	15,000.0	5,000.0 - 30,000.0		2005
Russian Federation	29.2	9.6 - 62.8	18.0 - 40.0	2005	16,509.0	3,490.0 - 31,414.0		2005
Southeast Europe								
Bulgaria	6.2	4.4 - 12.4	45.0	2004				
Croatia	6.9	5.2 - 8.7		2005	6,076.4	3,472.2 - 8,580.6		2005
FYR of Macedonia	11.3	10.1 - 12.6		2005	4,403.1	2,516.1 - 6,290.2		2005
Romania	18.9	16.4 - 18.9		2005	5,032.1	3,774.1 - 5,032.1		2005
Serbia and Montenegro	9.3	6.2 - 12.4		2004				
Turkey	7.6	6.3 - 8.8		2005	3,145.1	2,516.1 - 3,774.1		2005

ECSTASY

Retail and wholesale prices and purity levels: breakdown by drug, region and country or territory

(prices expressed in US$ or converted equivalent, and purity levels in percentage)

	RETAIL PRICE (per tablet)				WHOLESALE PRICE (per thousand tablets)			
Region / country or territory	Typical	Range	Purity	Year	Typical	Range	Purity	Year
West and Central Europe								
Andorra	6.3	3.8 - 7.6		2005				
Austria	15.7	12.6 - 18.9	1.0 - 100.0	2005	7,862.7	6,290.2 - 9,435.3	2.0 - 100.0	2005
Belgium	6.8			2004	1,428.4			2004
Cyprus	15.1			2005	6,457.5			2005
Czech Republic	9.2	3.5 - 21.6	84.0	2005	4,906.3	1,736.1 - 8,680.5		2005
Denmark	8.8	6.2 - 17.6		2005	4,393.7	1,747.5 - 4,393.7		2005
Estonia	7.9			2005	1,572.5			2005
Finland	20.1	15.1 - 25.2		2005	5,589.4	4,968.3 - 6,210.4		2004
France	8.8	6.3 - 11.3		2005	2,201.6	1,258.0 - 3,145.1		2005
Germany	8.8			2005	2,768.9			2005
Greece	18.9	12.6 - 25.2		2005				
Hungary	6.3	6.2 - 6.4	10.0 - 50.0	2005	1,510.9			2005
Iceland	24.6			2005				
Ireland	12.6			2005				
Italy	24.2	21.3 - 27.1		2005	4,696.1	4,226.0 - 5,171.4		2005
Latvia	7.6	5.7 - 9.5	8.0 - 94.0	2005	3,314.4	1,893.9 - 4,734.9		2005
Liechtenstein	12.7	8.5 - 17.0		2005				
Lithuania	4.1			2005	1,383.8	1,258.0 - 1,446.7	4.0 - 58.0	2005
Luxembourg	6.3			2005				
Malta	15.3			2005	20,000.0	18,000.0 - 22,000.0		2005
Netherlands	4.4	2.5 - 6.3		2005	754.8	251.6 - 1,006.4		2005
Norway	44.0			2005	11,951.3	11,322.3 - 12,580.4	20.0 - 50.0	2005
Poland	3.2	2.5 - 4.7		2005	1,989.0			2005
Portugal	5.0			2005	3,957.9	2,326.4 - 5,589.4		2004
Slovakia	8.1	6.5 - 9.8	5.0 - 49.0	2005	5,178.1			2005
Slovenia	6.3			2005	1,887.1			2005
Spain	12.4			2005				
Sweden	14.4	7.2 - 21.6		2005	4,028.8	2,158.3 - 5,755.4		2005
Switzerland	17.0	8.5 - 33.9	23.0 - 52.0	2005				
United Kingdom	7.5	0.5 - 37.7	3.0 - 93.0	2005	1,829.2			2005
Oceania								
Australia	31.5	18.0 - 60.0	31 (1.5 - 90.6)	2004	16,851.0	11,078.0 - 30,000.0	46 (3.7 - 77.1)	2004
New Zealand	53.6	42.9 - 64.3		2005				

3.5 Consumption

3.5.1 Annual Prevalence

3.5.1.1 Opiates

OPIATES
Annual prevalence of abuse as percentage of the population aged 15-64 (unless otherwise indicated)

EUROPE	
Western and Central Europe	
Estonia, 2004	1.5
Luxembourg, 2000	0.9
Latvia, (Riga), 2003	0.9
United Kingdom, 2004	0.9
Italy, 2005	0.8
Portugal, 2000	0.7
Lithuania*, 2002/4	0.6
Switzerland, 2000	0.6
Malta, 2004	0.6
Ireland, 2001	0.6
Denmark, 2001	0.5
Slovenia, 2001	0.5
Austria, 2002	0.5
France, 1999	0.4
Belgium,1997	0.4
Norway, 1997	0.4
Iceland, 2005	0.4
Hungary, (18-54), 2003	0.3
Slovakia, 2004	0.3
Netherlands, 2001	0.3
Greece, 2004	0.3
Spain, 2002	0.2
Germany, 2004	0.2
Liechtenstein*, 2005	0.2
Poland, 2003	0.2
Cyprus, 2004	0.2
Sweden, 2003	0.1
Czech Rep., 2004	0.1
Finland, 2004	0.1
Southeast Europe	
Albania*, 2000	0.5
Bulgaria, 2001	0.5
FYR of Macedonia, 2005	0.5
Croatia, 2005	0.3
Romania, 2004	0.2
Turkey, 2003	0.05
East Europe	
Russian Federation*, 2004	2.0
Ukraine*, 2002	0.8
Belarus*, 2003	0.4
Moldova, Rep., 2000	0.07

AMERICA	
Central America	
El Salvador*, 2004	0.3
Guatemala*	0.2
Panama**	0.2
Costa Rica*	0.1
Honduras, 2005	0.04
North America	
USA, 2000	0.6
Canada, 2005	0.3
Mexico, 2002	0.1
South America	
Brazil, (12-65), 2005	0.5
Guyana*, 2002	0.3
Argentina*, 2005	0.2
Chile, 2004	0.2
Uruguay*, 2003	0.2
Venezuela*, 2003	0.1
Colombia*, 2004	0.1
Ecuador*, 2005	0.09
Suriname*, 2002	0.08
Bolivia*, 2004	0.07
The Caribbean	
Bahamas*, 2003	0.2
Barbados*, 2002	0.2
Dominican Rep.*, 2001	0.1
Jamaica*, 2001	0.1
Trinidad & Tobago*, 2002	0.09
Turks & Caicos Isl.*, 2002	0.07
Antigua Barbuda, 2000	0.05
OCEANIA	
Australia, 2004	0.5
New Zealand, 2001	0.5
AFRICA	
Eastern Africa	
Mauritius, 2003	2.0
Kenya, 2004	0.2
Somalia, 2004	0.2
Rwanda, 2004	0.1
Ethiopia**	0.05
Uganda, 2004	0.05
Tanzania, United Rep., 1998	0.02
North Africa	
Egypt*, 2004	0.2
Algeria*, 2004	0.1
Libyan Arab Jamahiriya*, 2004	0.1
Morocco, 2004	0.02
Tunisia, 2003	0.03

OPIATES
Annual prevalence of abuse as percentage of the population aged 15-64 (unless otherwise indicated)

Southern Africa	
South Africa*, 2005	0.4
Zambia*, 2003	0.4
Dem.Republic of Congo, 2004	0.2
Swaziland, 2004	0.2
Zimbabwe, 2004	0.04
Namibia, 2000	0.03
West and Central Africa	
Nigeria*, (10+), 1999	0.6
Angola*, 2001	0.3
Chad, 1995	0.2
Liberia, 2004	0.2
Sierra Leone, 1997	0.2
Central African Republic, 2004	0.1
Congo Rep., 2004	0.1
Ghana, 2004	0.1
Niger, 2004	0.1
Senegal**	0.03
Cote d'Ivoire, 1997	0.01
ASIA	
Central Asia and Transcaucasia	
Kazakhstan, 2006	1.0
Kyrgyzstan, 2006	0.8
Uzbekistan, 2006	0.8
Georgia, 2000	0.6
Tajikistan, 2006	0.5
Armenia, 2005	0.3
Turkmenistan**, 1998	0.3
Azerbaijan, 2000	0.2
East and South-East Asia	
Macao SAR, China, 2003	1.1
Lao People's Dem. Rep., 2006	0.6
Myanmar, 2006	0.6
Taiwan province*, China, 2002	0.3
Viet Nam, 2005	0.3
China, 2003	0.2
Hong Kong SAR, China, 2005	0.2
Indonesia, 2005	0.2
Malaysia*, 2000	0.2
Thailand, 2006	0.1
Japan[a], 2003	0.06
Cambodia, 2004	0.03
Brunei Darussalam, 1998	0.01
Singapore*, 2004	0.01
Middle East and South-West Asia	
Iran, Islamic Republic, 1999	2.8
Afghanistan*, 2005	1.4
Pakistan, 2007	0.7
Israel, (18-40), 2005	0.5
Bahrain, 1998	0.3
Jordan*, 2001	0.2
Kuwait*, 2004	0.2
Lebanon, 2003	0.2
Oman, 1999	0.09
Yemen**, 1999	0.09
Syrian Arab Rep.*, 2005	0.02
United Arab Emirates*, 2004	0.02
Qatar, 1996	0.01
Saudi Arabia, 2000	0.01
South Asia	
Bangladesh*, 2003/4	0.4
India, 2001	0.4
Nepal, 1996	0.3
Sri Lanka*, 2004	0.3
Maldives**, 2001	0.2

[a/] Life-time prevalence (15+)

*UNODC estimates based on local studies, special population group studies, and /or law enforcement agency assessments.
** Tentative estimates.
Sources: Annual Reports Questionnaires, Government Reports, US Department of State, European Monitoring Center for Drugs and Drug Addiction (EMCDDA), Drug Abuse Information Network for Asia and the Pacific (DAINAP), UNODC Global Assessment Programme on Drug Abuse (GAP).

3.5.1.2 Cocaine

COCAINE
Annual prevalence of abuse as percentage of the population aged 15-64 (unless otherwise indicated)

AMERICA	
North America	
USA, 2005	2.8
Canada, 2004	2.3
Mexico, (12-65), 2002	0.4
South America	
Bolivia, (12-50), 2005[a]	1.9
Chile, 2004	1.8
Ecuador*, 2005	1.2
Venezuela*, 2001	1.1
Colombia, (18-65), 2003	0.8
Brazil, (12-65), 2001	0.7
Peru, (12-64), 2003	0.7
Suriname*, 2002	0.5
Argentina, 2004	0.3
Paraguay, 2004	0.3
Uruguay, 2001	0.3
Central America	
Guatemala*, 2003	1.2
Panama, (12-65), 2003	1.2
Nicaragua*, 2003	1.0
Honduras, (12-35), 2005	0.9
Belize*, 2002	0.7
El Salvador, 2005	0.5
Costa Rica, 2001	0.4
The Caribbean	
Aruba*, 1997	1.3
St. Lucia*, 2002	1.0
Barbados*, 2002	1.0
Dominican Rep., (12-70), 2000	0.9
Grenada*, 2003	0.9
Jamaica*, 2001	0.9
Bahamas*, 2001	0.8
St.Vincent Grenadines*, 2002	0.7
Turks and Caicos*, 2002	0.7
Cayman Is.*, 2000	0.6
Haiti*, 2000	0.3
Antigua Barbuda, 2000	0.1
EUROPE	
West and Central Europe	
Spain, 2005	3.0
England & Wales, (16-59), 2005/6	2.4
Italy, 2005	2.1
Scotland, (16-59), 2004	1.5
Iceland*, 2003	1.1
Ireland, 2003	1.1
Netherlands, 2001	1.1
Northern Ireland, (16-59), 2004	1.1
Switzerland*, 2003	1.1
Germany, (18-59), 2003	1.0
Austria, 2004	0.9
Belgium, 2004	0.9
Luxembourg*, 2003	0.9
Denmark, (16-64), 2000	0.8
Liechtenstein*, 2005	0.8
Norway, 2004	0.8
Cyprus, (15-65), 2003	0.7
Estonia, 2003	0.6
France, 2005	0.6
Slovakia, 2004	0.5
Greenland*, 2003	0.4
Hungary, (18-54), 2003	0.4
Finland, 2004	0.3
Lithuania, 2004	0.3
Malta, (18-65), 2001	0.3
Portugal, 2001	0.3
Slovenia*, 2003	0.3
Czech Rep., 2004	0.2
Sweden*, 2003	0.2
Latvia, 2003	0.2
Greece, 2004	0.1
Poland, (16+), 2002	0.1
Southeast Europe	
Bulgaria, (18-60), 2005	0.3
Croatia*, 2003	0.2
Romania, 2004	0.1
FYR of Macedonia, 2005	0.08
Albania*, 2004	0.07
Turkey*, 2003	0.04
East Europe	
Ukraine*, 2003	0.1
Belarus*, 2003	0.02
Russian Fed.*, 2005	0.02
OCEANIA	
Australia, 2004	1.2
New Zealand*, 2001	0.5
AFRICA	
East Africa	
Kenya**	0.1
Southern Africa	
South Africa*, 2005	0.8
Zambia**, 2000	0.2
Namibia, 1998	0.2
Angola, 1999	0.1
Zimbabwe, 2000	0.1
North Africa	
Morocco, 2004	0.05
West and Central Africa	
Ghana, 1998	1.1
Nigeria, 1999	0.5
Sao Tome Principe,1997	0.02
Sierra Leone, 1996	0.02
Chad, 1995	0.01
ASIA	
East and South-East Asia	
Indonesia, 2005	0.03
Japan*, 2005	0.03
Philippines, 2005	0.03
Thailand, 2006	0.03
Hong Kong SAR China, (11+), 2003	0.002
Singapore, 2004	0.0002
Near and Middle East / South-West Asia/C.Asia and Transcaucasia	
Israel, (18-40), 2005	0.6
Armenia, 2005	0.1
Lebanon*, 2001	0.1
Jordan**	0.05
Kuwait*, 2005	0.04
Syrian Arab Rep.*, 2005	0.001

[a] 1.9% cocaine paste; 1.6% cocaine HCL

*UNODC estimates based on local studies, special population group studies, and /or law enforcement agency assessments.
** Tentative estimates.
Sources: Annual Reports Questionnaires, Government Reports, US Department of State, European Monitoring Center for Drugs and Drug Addiction (EMCDDA), Drug Abuse Information Network for Asia and the Pacific (DAINAP), UNODC Global Assessment Programme on Drug Abuse (GAP).

3.5.1.3 Cannabis

CANNABIS
Annual prevalence of abuse as percentage of the population aged 15-64 (unless otherwise indicated)

EUROPE	
Western and Central Europe	
Cyprus (15-65), 2003	14.1
Italy, 2005	11.2
Spain, 2005	11.2
Switzerland*, 2003	9.6
Czech Rep., (18-64), 2004	9.3
England and Wales, (16-59), 2005/6	8.7
France, 2005	8.6
Liechtenstein*, 2005	8.6
Greenland*, 2003	7.6
Luxembourg, 2003	7.6
Austria, 2004	7.5
Germany, (18-59), 2003	6.9
Northern Ireland, (16-59), 2004	6.4
Scotland, (16-59), 2004	6.3
Denmark, (16-64), 2000	6.2
Slovenia*, 2003	6.2
Netherlands, 2001	6.1
Ireland, 2002/3	5.1
Belgium, (15-65), 2004	5.0
Estonia, 2003	4.6
Norway, 2004	4.6
Iceland, (18-64), 2001	4.3
Slovakia, (18-64), 2004	4.1
Hungary, (18-54), 2003	3.9
Latvia, (15-68), 2003	3.8
Portugal, 2001	3.3
Finland, 2004	2.9
Poland, (16+), 2002	2.4
Lithuania, 2004	2.2
Sweden, (18-64), 2005	2.0
Greece, 2004	1.7
Malta, (18-65), 2001	0.8
Southeast Europe	
Croatia*, 2003	4.0
Bosnia & Herzegovina*, 2005	3.0
Turkey*, 2003	1.9
Albania, 2004	1.8
Bulgaria, (18-60), 2005	1.5
Romania, 2004	0.9
East Europe	
Russian Federation*, 2003	3.9
Ukraine*, 2003	3.6
Belarus*, 2003	2.6

AMERICA	
Central America	
Guatemala, 2003	9.1
Belize*, 2003	6.7
El Salvador, (12-45), 2004	5.0
Panama*, 2003	4.0
Nicaragua*, 2002	2.2
Honduras*, 2004	1.5
Costa Rica, (12-70), 2000/1	1.3
North America	
Canada, 2004	16.8
USA, 2005	12.6
Mexico*, 2003	3.1
South America	
Chile, 2004	5.6
Venezuela*, 2002	3.3
Bolivia, 2005	3.2
Argentina*, 2005	3.0
Guyana*, 2002	2.6
Ecuador*, 2005	2.1
Suriname*, 2002	2.0
Colombia, (18-65), 2003	1.9
Peru, (12-64), 2003	1.8
Paraguay*, (12-65), 2005	1.6
Uruguay, (13-64), 2001	1.5
Brazil, (12-65), 2001	1.0
The Caribbean	
Jamaica* (12-55), 2001	10.70
Barbados*, 2002	7.30
Grenada*, 2003	6.70
Haiti, 2005	6.20
St. Vincent & the Grenadines*,2002	6.20
Turks & Caicos Is.*, 2002	5.40
Bahamas*, 2003	4.70
Trinidad & Tobago*,2002	3.70
Dominican Rep., 2000	1.90
OCEANIA	
Papua New Guinea, 1995	29.5
Micronesia Fed.State., 1995	29.1
New Zealand, 2001	13.4
Australia, 2004	13.3
New Caledonia**	1.9
Fiji, 1996	0.2
Vanuatu, 1997	0.1

CANNABIS
Annual prevalence of abuse as percentage of the population aged 15-64 (unless otherwise indicated)

AFRICA	
East Africa	
Madagascar*, 2004	9.1
Kenya*, 1994	4.0
Mauritius, 2004	3.9
Comoros*, 2002	2.9
Ethiopia*, 1999	2.6
Somalia, 2002	2.5
Uganda**	1.4
Tanzania, United Rep.**, 1999	0.2
North Africa	
Egypt**, 1997	5.2
Morocco, 2004	4.2
Libyan Arab Jamahiriya, 1998	0.05
Southern Africa	
Zambia*, 2003	17.7
South Africa*, 2005	8.9
Zimbabwe, 2000	6.9
Namibia, 2000	3.9
Angola, 1999	2.1
West and Central Africa	
Ghana, 1998	21.5
Sierra Leone, 1996	16.1
Nigeria, 2000	13.8
Mali*, 1995	7.8
Senegal, 1999	2.8
Chad, 1995	0.9
ASIA	
Central Asia and Transcaucasia	
Kyrgyzstan*, 2001	6.4
Kazakhstan*, 2000	4.2
Uzbekistan*, 2003	4.2
Armenia*, 2003	3.5
Azerbaijan*, 2004	3.5
Tajikistan*, 1998	3.4
East and South-East Asia	
Philippines*, 2004	4.2
Cambodia*, 2003	3.5
Malaysia*, 2003	1.6
Myanmar*, 2005	0.9
Thailand, (12-65), 2006	0.9
Indonesia, 2005	0.7
Lao People's Dem. Rep.*, 2002	0.7
Macao SAR, China*, 2003	0.7
Taiwan province, China**	0.5
Viet Nam*, 2002	0.3
Japan, 2002	0.1
Brunei Darussalam, 1996	0.02
Hong Kong SAR, China, 2005	0.02
Singapore, 2004	0.004
Republic of Korea, 2004	0.002
Near and Middle East / South-West Asia	
Israel, (18-40), 2005	8.5
Lebanon, 2001	6.4
Iran, Islamic Republic, 1999	4.2
Pakistan*, 2000	3.9
Afghanistan, 2005	3.6
Kuwait*, 2005	3.1
Jordan*, 2001	2.1
Syrian Arab Rep.*, 2002	2.0
Bahrain**	0.4
Oman, 1999	0.1
Qatar, 1996	0.1
South Asia	
Bangladesh, 1997	3.3
India, 2000	3.2
Nepal*, 1998	3.2
Sri Lanka, 2000	1.5
Maldives,1994	0.5

*UNODC estimates based on local studies, special population group studies, and /or law enforcement agency assessments.
** Tentative estimates.
Sources: Annual Reports Questionnaires, Government Reports, US Department of State, European Monitoring Center for Drugs and Drug Addiction (EMCDDA), Drug Abuse Information Network for Asia and the Pacific (DAINAP), UNODC Global Assessment Programme on Drug Abuse (GAP).

3.5.1.4 Amphetamine-type stimulants (excluding ecstasy)

AMPHETAMINES
Annual prevalence of abuse as percentage of the population aged 15-64 (unless otherwise indicated)

EUROPE	
West and Central Europe	
Denmark, 2000	1.3
England & Wales, (16-59), 2005/6	1.3
Estonia, 2003	1.3
Latvia, 2003	1.1
Norway, 2004	1.1
Scotland, (16-59), 2004	1.0
Spain, 2005	1.0
Germany, (18-59), 2003	0.9
Iceland*, 2003	0.9
Northern Ireland, (16-59), 2004	0.9
Austria, 2004	0.8
Belgium*, 2001	0.8
Hungary, 2003	0.8
Switzerland*, 2003	0.8
Czech Rep., (18-64), 2004	0.7
Finland, 2004	0.6
Netherlands, 2001	0.6
Poland, (16+), 2002	0.6
Ireland, 2003	0.4
Italy, 2005	0.4
Luxembourg, 1999	0.4
Lithuania, 2004	0.3
Malta, (18-65), 2001	0.3
Slovakia, 2004	0.3
Cyprus, 2003	0.2
France, 2005	0.2
Liechtenstein*, 2005	0.2
Slovenia*, 1999	0.2
Sweden, 2000	0.2
Portugal, 2001	0.1
Greece, 2004	0.04
Southeast Europe	
Croatia*, 2003	0.5
Bulgaria, (18-60), 2005	0.4
Turkey*, 2003	0.2
Romania*, 2004	0.1
Albania, 2004	0.02
East Europe	
Belarus*, 2005	0.4
Moldova, Rep., 1998	0.2
Russian Federation*, 2003	0.2
Ukraine*, 2003	0.2

AMERICA	
Central America	
El Salvador, (12-65), 2005	3.0
Costa Rica, 2000	1.0
Guatemala*, 2005	0.9
Honduras*, 2005	0.8
Nicaragua*, 2003	0.8
Panama*, 2003	0.6
North America	
USA, 2005	1.8
Canada, 2004	0.8
Mexico, 2002	0.1
South America	
Brazil, (12-65), 2005	0.7
Suriname*, 2002	0.6
Venezuela*, 2002	0.6
Argentina*, 2005	0.6
Colombia*, 2005	0.5
Paraguay*, 2005	0.5
Chile, 2004	0.4
Bolivia*, 2004	0.3
Ecuador*, 2005	0.2
Peru*, 2005	0.1
Uruguay, 2004	0.1
Caribbean	
Dominican Republic*, 2003	1.1
Trinidad & Tobago*, 2002	0.8
Grenada, 2005	0.7
Bahamas*, 2003	0.3
Turks & Caicos Islands*, 2003	0.3
Barbados*, 2002	0.2
OCEANIA	
Australia, 2004	3.8
New Zealand, 2001	3.4

AMPHETAMINES
Annual prevalence of abuse as percentage of the population aged 15-64 (unless otherwise indicated)

AFRICA	
East Africa	
Kenya**	0.6
Ethiopia**	0.3
North Africa	
Egypt**	0.5
Morocco, 2004/5	0.02
West & Central Africa	
Nigeria, 1999	1.1
Ghana**	1.0
Cameroon**	0.9
Chad, 1996	0.01
Southern Africa	
South Africa*, 2005	0.5
Namibia, 2000	0.1
Zambia*, 2003	0.1
Zimbabwe, 2000	0.1
ASIA	
Central Asia and Transcaucasia	
Armenia, 2005	0.04
Uzbekistan, 1997	0.01
East, South & South-East Asia	
Philippines*, 2004	6.0
Taiwan province, China, 2000	1.2
Thailand, 2006	0.8
Lao PDR*, 2004	0.7
Malaysia*, 2005	0.7
Cambodia*, 2004	0.6
Indonesia, 2005	0.3
Japan[(a)], 2005	0.3
Myanmar*, 2005	0.2
Viet Nam*, 2003	0.2
Republic of Korea, 2004	0.1
Brunei Darussalam, 2000	0.06
Hong Kong SAR, China, 2005	0.04
India, 2001	0.02
Singapore, 2004	0.005
Macao SAR, China, 2001	0.002
Near and Middle East / South-West Asia	
Israel, (18-40), 2005	0.4
Jordan, 2001	0.4
Lebanon*, 2001	0.4
Kuwait*, 2005	0.3
Bahrain**	0.1
Oman, 1998	0.1
Qatar, 1996	0.02
Syrian Arab Rep., 1998	0.003
Saudi Arabia, 2000	0.002

[a] Life-time prevalence (15+)

*UNODC estimates based on local studies, special population group studies, and /or law enforcement agency assessments.
** Tentative estimates.
Sources: Annual Reports Questionnaires, Government Reports, US Department of State, European Monitoring Center for Drugs and Drug Addiction (EMCDDA), Drug Abuse Information Network for Asia and the Pacific (DAINAP), UNODC Global Assessment Programme on Drug Abuse (GAP).

3.5.1.5 Ecstasy

ECSTASY
Annual prevalence of abuse as percentage of the population aged 15-64 (unless otherwise indicated)

EUROPE	
West and Central Europe	
Czech Rep., (18-64), 2004	3.5
Cyprus, 2003	2.5
Northern Ireland, (16-59), 2004	1.9
Estonia, (15-65), 2004	1.7
England & Wales, (16-59), 2005/6	1.6
Netherlands, 2001	1.5
Hungary, (18-54), 2003	1.4
Scotland, (16-59), 2004	1.2
Slovakia, 2004	1.2
Spain, 2005	1.2
Belgium*, 2003	1.1
Ireland, 2003	1.1
Austria, 2004	0.9
Slovenia*, 2003	0.9
Germany, (18-59), 2003	0.8
Latvia, 2003	0.8
Switzerland*, 2003	0.8
Iceland*, (15-65), 2003	0.6
Denmark, 2000	0.5
Finland, 2004	0.5
France, 2005	0.5
Liechtenstein*, 2005	0.5
Luxembourg*, (15-65), 1998	0.5
Norway, 2004	0.5
Italy, (15-54), 2005	0.4
Lithuania, 2004	0.4
Portugal, 2001	0.4
Sweden*, 2003	0.4
Greece, 2004	0.2
Malta, (18-65), 2001	0.2
Poland, (16+), 2002	0.2
Southeast Europe	
Bulgaria, (18-60), 2005	0.5
Croatia*, (15-65), 2003	0.3
Turkey*, 2003	0.3
FYR of Macedonia*, 1999	0.1
Romania*, 2004	0.1
Albania, 2004	0.04
East Europe	
Ukraine*, 2003	0.1
Russian Federation*, 2005	0.05
AMERICA	
Central America	
Panama*, 2003	0.4
Belize*, 2003	0.2
El Salvador*, 2003	0.1
Nicaragua*, 2003	0.1
Guatemala*, 2005	0.1
Honduras*, 2005	0.1
North America	
Canada, 2004	1.1
USA, 2004	1.0
Mexico, 2002	0.01
South America	
Brazil*, 2005	0.2
Chile, 2004	0.2
Colombia*, 2005	0.2
Ecuador*, 2005	0.2
Venezuela*, 2001	0.2
Argentina, 2004	0.1
Bolivia, 2005	0.1
Guyana*, 2002	0.1
Paraguay*, 2005	0.1
Peru, 2003	0.1
Suriname*, 2002	0.1
Uruguay*, 2005	0.1
The Caribbean	
Turks & Caicos Is.*, 2003	0.7
Barbados*, 2002	0.3
Dominican Rep.*, 2000	0.2
Bahamas*, 2003	0.1
Trinidad & Tobago, 2005	0.1
AFRICA	
South Africa*, 2004	0.4
Zambia*, 2003	0.3
Namibia, 2000	0.1
Zimbabwe*, 2003	0.1
Morocco, 2003	0.02
Ghana, 1995	0.01
ASIA	
East and South-East Asia/South Asia/Transcaucasia	
Malaysia*, 2003	0.4
Indonesia, 2005	0.3
Macao SAR, China*, 2002	0.3
Rep. of Korea, 2004	0.3
Philippines, 2004	0.2
Viet Nam*, 2003	0.2
Armenia, 2005	0.1
Cambodia*, 2003	0.1
Japan[a], 2003	0.1
Thailand, 2001	0.1
Hong Kong SAR, China, 2005	0.03
India*, 2004	0.01
Singapore, 2004	0.003
Near and Middle East / South-West Asia	
Israel,(18-40), 2005	0.7
Lebanon*, 2001	0.5
OCEANIA	
Australia, 2004	4.0
New Zealand*, 2001	2.2

[a] Life-time prevalence (15+)

* UNODC estimates based on local studies, special population group studies, and /or law enforcement agency assessments.
** Tentative estimates.
Sources: Annual Reports Questionnaires, Government Reports, US Department of State, European Monitoring Center for Drugs and Drug Addiction (EMCDDA), Drug Abuse Information Network for Asia and the Pacific (DAINAP), UNODC Global Assessment Programme on Drug Abuse (GAP).

3.5.2 Treatment demand (primary drugs of abuse)

3.5.2.1 Primary drugs of abuse among persons treated for drug problems in Africa

Country*	Source	Year	Distribution of main drugs in percentages								People treated**
			Cannabis	Opiates	Cocaine	Amphetamine - type stimulants	Methaqualone	Depressants	Inhalants	Khat	
Algeria	ARQ	1999/2004***	81.3%	6.6%	0.2%		-	-	2.1%	-	3,000
Botswana	SENDU	2003	100.0%	-			-	-	-	-	17
Burkina Faso	GAP	2005	80.0%	3.2%	4.7%	43.6%	-	1.1%	4.4%		275
Cameroon[(a)]	RAS	1995	48.5%	12.1%	13.6%		-	-	36.4%	-	
Chad	ARQ	1996	50.6%	-	0.2%	18.8%	-	-	6.3%	-	16
Congo	ARQ	1995	100.0%	-			-	-	-	-	41
Cote d'Ivoire	ARQ	1998	91.0%	4.1%	3.0%		-	-	-	-	
Egypt	UNODC FO	1999	22.1%	45.1%	0.4%		-	-	-	-	
Ethiopia	ARQ	2005	8.6%	37.1%			-	-	-	54.3%	35
Ghana	GAP	2005	84.5%	0.4%	1.0%		-	-	-	-	1,531
Kenya[(b)]	Univ.	2005	36.3%	37.8%	9.7%	0.5%	-	0.5%	1.2%	11.4%	402
Lesotho	SENDU	2004	100.0%	-			-	-	-	-	54
Madagascar	ARQ	2005	100.0%								342
Malawi	SENDU	2004	100.0%	-			-	-	-	-	796
Mauritius	ARQ	2003	22.3%	58.3%			-	-	0.5%	-	592
Mozambique	SENDU	2004	33.3%	54.7%	11.4%		-	-	-	-	150
Namibia	ARQ	2005	2.4%	2.4%	24.4%	9.8%	61.0%	-	-	-	41
Nigeria	Govt.	2004	89.7%	1.2%	0.7%	2.0%		3.9%	3.7%	-	925
Sao Tome & Principe	ARQ	1997	22.2%	5.5%	72.2%		-	-	-	-	
Senegal	GAP	2005	78.0%	1.0%	2.0%	1.0%			11.0%		202
Seychelles	ARQ	2005	55.4%	43.1%		1.5%					65
Sierra Leone	ARQ	1997	96.8%	-	0.6%		-	-	-	-	2,067
South Africa	ARQ	2005	34.0%	10.8%	17.5%	18.3%	14.3%	5.2%	-	-	14,741
Swaziland	SENDU	2004	92.2%	0.9%	0.9%		4.7%	0.9%	-	-	128
Tanzania	SENDU	2004	62.7%	32.7%			-	-	-	-	340
Togo	ARQ	2002	56.2%	4.3%	4.9%		-	-	34.6%	-	162
Zambia	ARQ	2005									233
Total											**26,155**
Average			**63.4%**	**14.5%**	**9.8%**	**11.9%**	**3.6%**	**0.5%**	**4.2%**	**3.0%**	

* Please note that treatment definitions differ from country to country

** Excluding alcohol;

*** The second year specified is for the number of people treated (last column).

(a) Proxy: drugs locally consumed, based on key informants from social services (health affairs), from traditional healers, and repression.

(b) Proxy: cohort of abusers identified from rehabilitation centres, treatment centres, hospitals, streets, and drug dens within 5 urban areas.

Sources: UNODC, Annual Reports Questionnaires (ARQ) and Field Office (FO) data, Southern African Development Community Epidemiology Network on Drug Use (SENDU), International Psychology Reporter, UNODC Global Assessment Programme on Drug Abuse (GAP)

3.5.2.2 Primary drugs of abuse among persons treated for drug problems in America

Country*	Source	Year	Distribution of main drugs in percentages										People treated**	Comment
			Cocaine-type (cocaine, basuco & crack-cocaine)	Cocaine	Basuco	Crack	Cannabis	Amphetamine - type stimulants		Inhalants	Tranquilizers	Opiates		
								Amphetamines	Ecstasy					
Argentina	ARQ	2004	32.6%	24.8%	7.3%	0.2%	31.9%	1.8%	0.4%	15.3%	15.8%	0.6%	144,120	Treatment centres, July 2004
Bahamas	ARQ	2003	36.7%				46.4%						536	
Barbados	SIDUC/ARQ	1998/2003/04	72.3%	5.6%		66.7%	27.8%						318	
Bolivia	SIDUC/ARQ	1998/2003***	54.8%	23.1%	31.8%		14.7%	1.4%		23.5%			5,491	
Brazil	ARQ	2005											850,000	
Canada	CCENDU	2001	25.6%				24.7%	0.4%			21.2%	8.1%	29,214	
Chile	ARQ	2005											6,000	Mental healthcare centres, psychiatrical clinics, day-hospitals, hospitals and therapeutical centres
Colombia	SIDUC	1998	56.3%	28.1%	28.2%		13.4%	3.6%		4.8%			n.a.	
Costa Rica	ARQ	2002/04***	54.3%	23.8%		30.5%	30.1%						13,000	Therapeutic communities, in- & out-patient centres
Dominican Republic	ARQ	2001/03***	76.4%				20.0%					3.6%	2,728	
Ecuador	ARQ	2005	33.7%	30.8%		2.9%	50.3%	7.8%		5.8%		2.3%	344	All treatment centres authorized by Consejo Nacional de Control de Sustancias Estupefacientes y Psicotropicas
El Salvador	ARQ/Govt.	2004/2005***	63.8%	17.2%		46.6%	13.8%						12,986	43 treatment centres
Grenada	ARQ	2004	40.0%				60.0%						250	2 drug treatment centres
Guatemala	ARQ	2003	75.0%				25.0%						2,000	
Haiti	ARQ	2002	37.5%				35.4%				6.3%	2.1%	51	
Honduras	SIDUC	1998/2004***	9.0%	3.1%		5.9%	34.4%			9.0%			8,300	
Jamaica	ARQ	2004	45%				48.7%	1.0%					409	Metropolitan and some urban areas
Mexico	ARQ	2005	56.4%	34.1%				33.4%	9.9%	20.8%		1.8%	8,090	3 Residential Treatment Facilities, 90 out-patient units
Nicaragua	SIDUC	1998	77.3%	14.5%		62.8%	7.3%			12.7%			n.a.	
Panama	SIDUC/ARQ	1998/2001***	49.4%	48.9%	0.5%		5.1%			0.5%			5,838	
Peru	ARQ	2005	67.0%				31.1%	0.3%			1.4%	0.3%	2,557	5 therapeutic centres, 1 specialized state centre, 2 prisons, 4 polyclinics, proportion based on a sub sample
Saint Lucia	ARQ	2005	82.5%				17.5%						40	Residential treatment facility
St.Vincent & Grenadines	ARQ	2004	24.7%				75.3%						73	Psychiatric hospitals
Trinidad & Tobago	ARQ	2001/04***	35.9%				17.6%						250	Nationwide (state and NGOs)
Uruguay	SIDUC	1998	46.4%	46.4%			12.2%	0.6%		9.2%			n.a.	
USA	SAMHSA/TEDS	2005	36.7%				46.4%	16.2%	0.2%	7.7%	12.8%	15.0%	2,172,000	Household survey
Venezuela	ARQ	2003	76.9%				12.5%	0.1%	0.2%	0.3%	0.7%	2.0%	7,321	
Total													**3,271,916**	
Total North America													**2,209,304**	
Total South America													**1,062,612**	
Unweighted average			**46.9%**				**29.2%**	**6.1%**	**2.7%**	**10.0%**	**9.7%**	**1.3%**		
Average North America			**39.6%**				**35.6%**	**16.7%**	**5.1%**	**14.3%**	**17.0%**	**8.3%**		
Average South America			**47.8%**				**26.3%**	**0.7%**	**0.0%**	**3.4%**	**1.0%**	**0.5%**		

Note: These drugs represent the most common drugs of impact across countries, therefore the percentages may not add up to 100% for all countries.

* Please note that treatment definitions differ from country to country

** Excluding alcohol;

*** The second year specified is for the number of people treated (last column).

n.a. not available

Sources: UNODC Annual Reports Questionnaires data (ARQ); SIDUC, Treatment Centres Data 1998, Drug of impact; SIDUC 1997 Report; Substance Abuse and Mental Health Services Administration (SAMHSA), Treatment episode dataset TEDS, USA.

Canadian Community Epidemiology Network on Drug Use (CCENDU), Morbidity Statistics 2000/2001 (separations related to illicit drug use)

3.5.2.3 Primary drugs of abuse among persons treated for drug problems in Asia

Country*	Source	Year	Distribution of main drugs in percentages							People treated**	Comment
					Amphetamine-type stimulants						
			Opiates	Cocaine	Amphetamines	Ecstasy	Cannabis	Inhalants	Sedatives		
Afghanistan	ARQ	2005								2,049	Residential, community- based and home- based treatment facilities (Kabul & Gardiaz cities, Badakhshan & Herat)
Armenia	ARQ	2004	100.0%	-	-	-	-	-	-	32	Narcological Clinic inpatients
Azerbaijan	ARQ / UNODC est.	2003	75.0%	-	-	-	20.0%	5.0%	-	n.a.	
Bahrain	ARQ	1998	100.0%	-	-	-	-	-	-	1,488	
Bangladesh	ARQ	2005	88.7%	-	0.1%	-	8.8%	-	1.7%	1,960	Dhaka, including detoxification centres
Brunei Darussalam	UNODC FO (DAINAP)	2005	1.3%	-	98.7%	-	-	-	-	75	
China	UNODC FO (DAINAP)/ARQ	2004	90.0%	-	0.6%	6.2%	-	-	3.3%	105,151	
Hong Kong, SAR of China	Govt/ARQ	2004/05***	72.5%	-	3.9%	-	4.2%	-	-	11,737	Medical & non-medical residential treatment centres, compulsory treatment schemes, outpatient treatment program, counselling centres, substance abuse clinics
India	ARQ	2004/5	61.3%	1.5%	0.2%		15.5%	0.9%	4.1%	81,802	377 treatment centres & 52 counselling centres
Indonesia	ARQ	2005	91.5%	-	2.1%	-	2.1%	-	0.9%	3,214	Psychiatric, Psychologist and Social Worker treatment
Iran	Govt.	2001	91.6%	-	-	-	2.5%	-	-	33,990	
Israel	ARQ	2004								12,000	
Japan	Govt	2004	0.6%	0.1%	55.8%	0.2%	19.0%	17.9%	4.9%	1,124	
Jordan	ARQ	1999	21.4%	-	45.2%	-	-	6%	-	85	
Kazakhstan	UNODC FO	2000/04***	74.6%	-	0.1%	-	20.0%	-	-	47,903	
Kuwait	ARQ	2005	56.0%	3.6%	36.0%	-	56.0%	2.0%	33.0%	908	
Kyrgyzstan	ARQ	2005	58.9%	-	-	-	33.0%	3.9%	-	666	
Lao PDR, Vientiane	UNODC FO (DAINAP)	2003/04***	5.0%	-	77.0%	-	2.4%	-	-	1,072	
Lebanon	ARQ / UNODC Est.	2004***	57.0%	4.0%	0.5%		32.0%	-	6.0%	1,073	3 hospitals and 2 rehabilitation centres
Macao, SAR of China	ARQ	2005	86.0%	-	-	1.1%	0.3%	-	0.6%	358	All voluntary treatment centres, including residential treatment
Malaysia	ARQ	2003/05***	65.7%	-	7.5%	2.3%	23.3%	-	-	6,534	Government Drug Treatment & Rehabilitation Centres only
Maldives	ARQ	2003	87.0%	-	-	-	13.0%	-	-	126	Residential and community treatment centre
Mongolia	ARQ	2001	71.4%	-	-	-	28.6%	-	-	7	
Myanmar	ARQ	2004/05***	86.3%	-	11.8%	-	1.9%	-	-	2,050	Govt Drug treatment centres, Community based treatment centres, Youth Correction Camps
Nepal, Kathmandu	AMCEWG	1994	87.2%	-	-	-	5.4%	-	-	n.a.	
Oman	ARQ	2002	100.0%	-	-	-	-	-	-	7	
Pakistan	ARQ	2004	49.0%	-	-	-	37.0%	-	-	4,000	Urban areas
Philippines	ARQ	2005	1.2%	1.2%	81.4%	1.6%	33.6%	4.8%	0.3%	5,873	
Qatar	ARQ	1997	25.4%	-	1.7%	-	5.1%	10.2%	-	59	
Republic of Korea	ARQ	2005	8.1%	-	81.1%	-	10.8%	-		148	
Saudi Arabia	ARQ	2001	15.1%	-	41.3%	-	15.9%	27.8%	-	1,368	
Singapore	ARQ	2005	10.8%		14.2%	19.3%			55.7%	176	Detoxification, rehabilitation and counselling
Syria	ARQ	2005	84.2%	0.4%	-	-	-	-	4.3%	697	
Sri Lanka	ARQ	2005	100.0%	-	-	-	-	-	-	3,285	Allopathic, Ayurvedic, Homeopathic, acupuncture and institutional care
Taiwan, Province of China	CEWG	2004	93.8%	-	21.8%	0.8%	0.4%	-	3.5%	12,232	Psychiatric hospitals/clinics
Tajikistan	ARQ	2004/05***	99.2%	-	-	-	-	-	-	680	
Thailand	ARQ	2005	9.2%	0.0%	74.2%	0.1%	8.4%	6.2%	0.3%	30,167	Excluding some registered and non-registered detoxification. centres
United Arab Emirates	ARQ	2004								92	
Uzbekistan	ARQ	2004/05***	78.8%	-	-	-	16.8%	0.9%	0.6%	5,873	City and 'oblast' drug treatment clinics (state run)
Viet Nam	AMCEWG/DAINAP	2001/05***	98.0%	-	2.0%	-	-	-	-	69,610	
Total										**449,700**	
Average (unweighted)			**62.2%**	**0.3%**	**17.8%**	**0.9%**	**11.6%**	**2.3%**	**3.3%**		

Note: This table does not include "other drugs", therefore the percentages will not add up to 100%.

* Please note that treatment definitions differ from country to country

** Excluding alcohol

*** The second year specified is for the number of people treated (last column).

Sources: UNODC, Annual Reports Questionnaire (ARQ) and Field Office (FO) data; Asian Multicity Epidemiology Work Group (AMCEWG); National Institute on Drug Abuse (USA), Community Epidemiology Work Group (CEWG); Govt. reports; Drug Abuse Information Network

3.5.2.4 Primary drugs of abuse among persons treated for drug problems in Europe

Country*	Source	Year	Distribution of main drugs in percentages								People treated**	Comment
			Opiates	Cocaine	Amphetamine-type stimulants		Hallucinogens	Cannabis	Hypnotics and Sedatives	Inhalants/ solvents		
					Amphetamines	Ecstasy						
Austria	Govt.	2003/02***	87.0%	-	-	-	-	-	-		11,753	
Albania	ARQ	2004	88.0%	4.0%	0.0%	0.0%	0.0%	8.0%	0.0%	0.0%	1,901	Short time detoxification, relapse prevention, crisis intervention
Belarus	UNODC	2004	65.3%	0.03%	3.1%	1.6%	0.9%	10.7%	2.8%	14.4%	5,175	Specialized de-tox. facilities
Belgium	ARQ	2004	44.2%	13.0%	11.8%	1.7%		20.0%			3,662	Only specialized centers recognized by the ad hoc authority included
Bulgaria	UNODC	2004	96.0%	0.2%	0.5%	0.1%	0.0%	2.7%	0.4%	0.3%	1,995	Seven cities
Croatia	ARQ	2005	73.0%	0.9%	0.9%	0.6%	-	21.7%	1.4%	-	6,668	All out- and inpatient treatment facilities in health sector. NGO and therapeutic communes excluded
Cyprus	ARQ	2005	66.7%	9.8%	0.2%	1.0%	0.4%	21.0%	0.8%	-	499	Impatient and outpatient treatment centres as well as counseling centres
Czech Republic	UNODC/EMCDDA	2004	24.5%	0.2%	54.2%	0.4%	0.4%	16.5%	-	2.5%	8,845	All services except substitution treatment included. Hallucinogens from EMCDDA outpatient
Denmark	ARQ	2004	42.2%	4.2%	5.8%	0.9%	0.0%	23.7%	1.6%	0.02%	5,212	
Estonia	Focal Point EMCDDA	2001	53.8%	-	18.6%	-	-	-	-	-	2,034	
Finland	EMCDDA	2004	39.0%	0.1%	30.4%	0.4%	0.1%	20.4%	8.5%	-	3,150	All clients
France	ARQ	2004	51.3%	6.9%	0.8%	1.4%		32.6%			78,500	Special centres for drug addicts
Germany	ARQ	2004	80.3%	30.8%	18.8%	12.9%	6.9%	65.0%	-	-	38,953	Specialized out-patient treatment centres, 591 from 934 existing centres
Greece	ARQ/EMCDDA	2005	87.7%	2.6%		0.2%	0.2%	7.8%	1.1%	-	3,872	Private clinics and/or doctors and low threshold interventions are excluded, Hallucinogens: EMCDDA outpatient
FYR of Macedonia	ARQ	2005	98.7%		-	-	-	1.3%	-	-	902	Psychiatric Hospital "Skopje", in-patient and out-patient facilities, 5 new Services for prevention and treatment of drug use and neuro-psychiatrics departments in general hospitals
Hungary	ARQ/EMCDDA	2005	14.4%	0.9%	5.3%	4.5%	0.5%	35.7%	25.1%	-	14,793	Out- and in-patient psychiatric units (addictology included) of healthcare system, without GPs and low threshold facilities; Hallucinogens EMCDDA outpatient.
Iceland	ARQ/UNODC	2000/04***	0.1%	7.1%	65.6%	0.9%	-	26.3%	-	-	1,655	SAA, the main treatment facility. Hospital treatment, total includes alcohol
Ireland	UNODC	2004	65.6%	7.4%	0.5%	2.9%	-	17.7%	-	-	4,750	Total number which entered treatment in 2004
Italy	ARQ/EMCDDA	2005	73.0%	13.5%	0.2%	0.6%	0.1%	9.8%	0.6%	-	159,952	Data refer to 90% of the Public Treatment Services.
Latvia	ARQ	2005	45.1%		8.5%	-		1.3%	2.0%	-	543	Register of Drug Dependent Clients treated in In-Patient Treatment Centres.
Liechtenstein	ARQ	2005	14.8%	18.5%	3.7%	-	-	63.0%	-	-	27	
Lithuania	ARQ	2005	80.3%	0.1%	2.5%	-	0.2%	0.5%	1.5%	3.1%	3,301	Centres providing medical treatment to addicts. Excl. psycho-social services offered to drug users & prison medical units.
Luxembourg	ARQ/EMCDDA	2003/05***	76.0%	11.0%	0.0%	0.0%	0.0%	8.0%	-	-	1,700	National coverage - in-patient & out-patient
Malta	UNODC/EMCDDA	2003/04	83.5%	5.8%	3.0%	0.7%	-	7.4%	0.2%	-	623	Outpatient treatment/ all clients (except ecstasy: 2003 UNODC)
Moldova	UNODC	2004	39.1%	0.03%	3.8%			51.8%			3,791	
Netherlands	UNODC/EMCDDA	2003	50.8%	30.8%	2.5%	0.9%	0.8%	15.0%	-	-	29,908	Out-patient; Hallucinogens: EMCDDA outpatient
Norway	Focal Point EMCDDA	2004	52.0%	1.0%	15.0%	0.1%	-	14.0%	-	-	3,003	Breakdown based on treatment admissions & info from correctional services
Poland	ARQ/UNODC	2003/04***	23.3%	0.9%	8.9%	-	0.6%	3.0%	10.1%	2.7%	12,836	Only in-patient treatment
Portugal	ARQ/Focal Point EMCDDA	2004/05***	63.0%	25.0%				5.0%	1.0%	-	31,822	Includes public drug abuse treatment network
Romania	ARQ	2004/05	54.2%	0.4%	0.2%	0.9%		2.6%	-	23.2%	1,364	Centres providing medical treatment to addicts. Excl. psycho-social services offered to drug users & prison medical units; solvents: 2004.
Russian Fed.	UNODC	2004	94.3%	0.06%	0.5%	-	-	1.8%	-	-	52,460	State-run drug treatment/psychiatric centres
Slovakia	ARQ/UNODC	2003/05	43.4%	0.6%	24.4%	0.2%	0.7%	19.2%	4.6%	8.4%	2,078	All treatment centres
Slovenia	UNODC/EMCDDA	2004/05***	96.2%	24.1%	1.2%	4.0%	-	53.3%	-	9.0%	3,000	All treatment centres, total for heroin users
Spain	EMCDDA	2004	44.5%	40.5%	0.6%	0.5%	0.1%	12.1%	1.3%	-	52,922	Including outpatient treatment centres and treatment units in prisons
Sweden	ARQ/EMCDDA	2004	31.5%	2.1%	35.1%	0.5%	0.1%	19.5%	9.0%	-	4,389	Hospital departments, residential centres, outpatient clinics included; Hallucinogens EMCDDA outpatient
Switzerland	Govt.	2003/04	43.9%	25.4%	0.5%	0.8%	0.3%	14.2%	3.0%	-	20,316	
Turkey	MOH	2005	50.2%	3.6%	-	5.0%	-	22.8%	2.8%	14.0%	2,078	In- patients in 11 treatment centres
United Kingdom	ARQ/EMCDDA	2005	66.4%	8.8%	3.5%	0.8%	0.1%	10.0%	1.9%	-	99,482	Out- and In-patient, and general practitioners included. Hallucinogens: EMCDDA outpatient
Total											**679,914**	
Total East Europe											**123,764**	
Total West Europe											**556,150**	
Average (unweighted) Europe			**58.0%**	**8.3%**	**9.2%**	**1.2%**	**0.4%**	**17.5%**	**2.3%**	**2.2%**		
Average (unweighted) East Europe			**61.2%**	**2.1%**	**7.8%**	**1.0%**	**0.2%**	**14.9%**	**3.0%**	**4.6%**		
Average (unweighted) West Europe			**55.4%**	**12.6%**	**9.4%**	**1.3%**	**0.4%**	**19.6%**	**1.4%**	**0.0%**		

Note: In some countries people are being treated for more than one substance; sum of the percentages may thus exceed 100%.

* Please note that treatment definitions differ from country to country

** Excluding alcohol

*** The second year specified is for the number of people treated (last column).

Sources: UNODC, Annual Reports Questionnaire (ARQ) data; European Monitoring Centre for Drugs and Drug Addiction (EMCDDA), Statistical Bulletin

3.5.2.5 Primary drugs of abuse among persons treated for drug problems in Oceania

Country*	Source	Distribution of main drugs in percentages								People treated**	Comments
		Year	Opiates	Cocaine	Cannabis	Amphetamine-type stimulants		Halucinogens	Sedatives		
						Amphetamines	Ecstasy				
Australia* **	ARQ	2003/04	35.8%	0.4%	39.6%	19.8%	0.7%		3.8%	71,800	Exclusions: Primary purpose opioid maintenance; accommodation only; health promotion; correctional facilities; only admitted patient services; private, total refers to episodes
New Zealand	ARQ	2005	30.8%	0.2%	53.2%	15.0%		0.9%		3,899	Publicly funded hospital admissions only. Emergency dept presentations and privately funded treatment not included
Total										**75,699**	
Average			**33.3%**	**0.3%**	**46.4%**	**17.4%**	**0.7%**	-	**3.8%**		

* Please note that treatment definitions differ from country to country

** excluding alcohol

*** Data for Australia refer to closed drug related treatment episodes over the July 2003-June 2004 period.

Source: UNODC, Annual Reports Questionnaire (ARQ) data

4. METHODOLOGY

4. Methodology

Considerable efforts have been made over the last few years to improve the estimates presented in this report. Nonetheless, the data must still be interpreted with caution because of the clandestine nature of drug production, trafficking and abuse. Apart from the 'hidden' nature of the phenomenon being measured, the main problems with regard to data relate to the irregularity and incompleteness in reporting. This affects the quantity, quality and comparability of information received. First, the irregular intervals at which some Governments report may result in absence of data in some years but availability in others. The lack of regular data, for which UNODC tries to compensate by reference to other sources, can influence trend patterns. Secondly, submitted questionnaires are not always complete or sufficiently comprehensive. All figures should thus be seen as likely orders of magnitude of the drug problem, but not as precise results. It should be also noted that all figures provided, particularly those of more recent years, are subject to updating.

Sources of information

Under the International Drug Conventions, Member States are formally required to provide drug related information annually, as detailed by the Commission on Narcotic Drugs, to the 'Secretary General' of the United Nations (i.e. the Secretariat of UNODC). The Commission on Narcotic Drugs developed the Annual Reports Questionnaire (ARQ) to collect these data.

The World Drug Report 2007 is based primarily on data obtained from the ARQs returned by Governments to UNODC over the June 2006 to May 2007 period. The data collected during this period normally refer to the drug situation in 2005. UNODC sent out the questionnaire to 192 countries. Some of them were forwarded on to autonomous territories, thus bringing the total to 198. UNODC received 104 replies to its questionnaire on Drug Abuse (Part II) and 120 replies to its questionnaire on Illicit Supply of Drugs (Part III). The best coverage was from countries in Europe (89% of all countries in Europe filled in both Part II and Part III of the ARQ), followed by the Americas (66% of the countries filling in the Supply and 42% the Demand ARQ) and Asia (63% Supply / 58% Demand ARQ). In the case of Africa, 40% of countries replied to the Supply ARQ and 35% to the Demand ARQ. In the Oceania region, the two largest countries supplied information, equivalent to 13% of the countries in the region. Member states' responses to the ARQs are shown on the subsequent maps.

In general, the ability of Member States to provide information on illicit drug supply is significantly better than their ability to provide demand related information. The analysis of the 'Supply ARQs' revealed, that 77% of them were 'substantially' completed compared to just 54% of the 'Demand ARQs'. (ARQs which were more than 50% completed were classified as having been 'substantially filled in'; the rest were classified as having been only partially filled in.)

In order to identify to analyse the extent to which Member States provided information, a number of key questions in the ARQs were identified:

- For the 'Supply ARQs', this included replies to the questions on 'seizures', i.e. on the quantities seized (replied by 97% of the countries returning the ARQ), the number of seizure cases (75%), 'trafficking' (origin of drugs (69%) and destination (62%)), 'drug prices' (90%), 'drug related arrests'(87%) and 'convictions' (41%). The overall analysis of these data revealed – as mentioned before - that 'Supply ARQs' were 77% completed.
- For the Demand ARQs, the key questions used for the analysis referred to 'trends in drug abuse' (replied by 92% of the Member States), 'ranking of drugs in terms of their prevalence among the general population' (89%), 'prevalence estimates' (general population (35%), students (42%); problem drug use (30%)), 'drug related deaths' (35%), and 'treatment' (53%). The overall response rate of completion was 54% for the countries which returned a 'Demand ARQ' to UNODC.

Information provided by Member States in ARQs form the basis for the estimates and trend analysis provided in the World Drug Report. Often, this information and data is not sufficient to provide an accurate or comprehensive picture of the world's drug markets. When nec-

essary and where available, the data from the ARQs are thus supplemented with data from other sources.

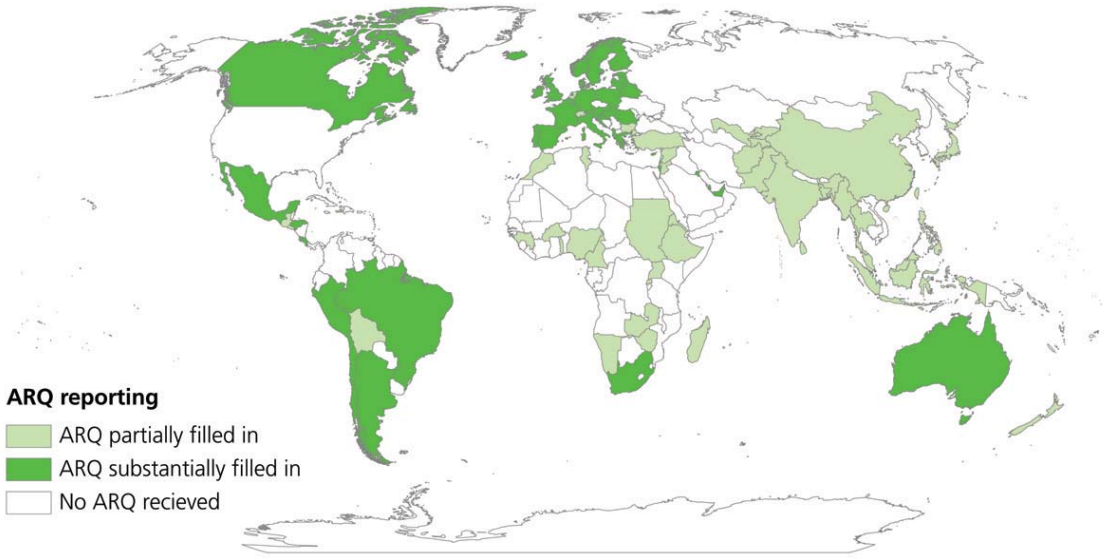
As in previous years, seizure data made available to UNODC via the ARQs was complemented primarily with data from Interpol/ICPO, data provided to UNODC by the Heads of National Law Enforcement Agencies (HONLEA) at their regional meetings, data provided through UNODC's 'Data for Africa' project, and UNODC's, 'Drug Abuse Information Network for Asia and the Pacific' (DAINAP). In addition, Government reports have been used, wherever available. Other sources considered, included data published by the United States Department of State's Bureau for International Narcotics and Law Enforcement Affairs in its International Narcotics Control Strategy Report.

Price data for Europe was complemented with data from Europol. Precursor data presented are basically those collected by the International Narcotics Control Board (INCB). Demand related information was obtained through a number of additional channels, including UNODC's Global Assessment Program (GAP), the drug control agencies participating in UNODC's, 'Drug Abuse Information Network for Asia and the Pacific' (DAINAP), as well as various national and regional epidemiological networks such as the European Monitoring Centre for Drugs and Drug Addiction (EMCDDA) or the Inter-American Drug Abuse Control Commission (CICAD). National government reports published in the scientific literature were also used as sources of information. This type of supplementary information is useful and necessary as long as Member States lack the monitoring systems necessary to produce reliable, comprehensive and internationally comparable data.

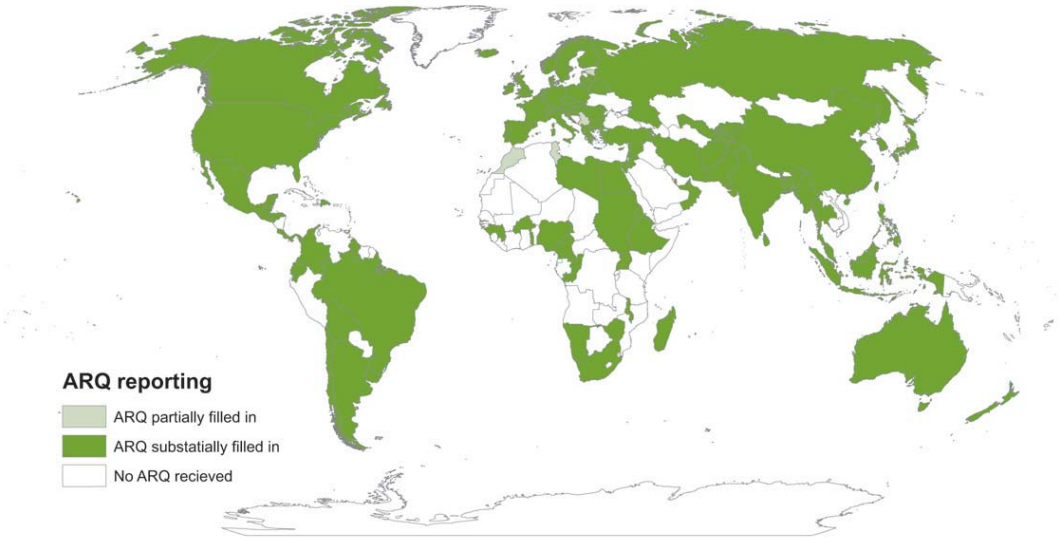
To this end, UNODC encourages and supports the improvement of national monitoring systems. Major progress has been made over the last few years in some of the main drug producer countries. In close cooperation with UNODC's Illicit Crop Monitoring Program (ICMP) and with the support of major donors – these countries have developed impressive monitoring systems designed to identify extent of and trends in the cultivation of narcotic plants. These data form another fundamental basis for the trend analysis presented in the World Drug Report.

There remain significant data limitations on the demand side. Despite commendable progress made in a number of Member States, in the area of prevalence estimates for example, far more remains to be done to provide a truly reliable basis for trend and policy analysis and needs assessments. The work being done on the World Drug Report 2007 provides yet another opportunity to emphasise the global need for improving data collection and monitoring to improve the evidence base for effective policy.

Reporting of Annual Report Questionnaires (ARQ) Part II, Drug Abuse, for the year 2005



Reporting of Annual Report Questionnaires (ARQ) Part III, Ilicit supply of drugs, for the year 2005



Sources and limitations of data on the supply side

Cultivation, production and manufacture

Global estimates are, in general, more robust on the production side, notably data for plant based drugs, than on the demand side. In line with decisions of the Member States (1998 UNGASS and subsequent Commission on Narcotic Drugs resolutions), UNODC launched an Illicit Crop Monitoring Programme (ICMP) in 1999. The objective of the programme is to assist Member States in establishing national systems to monitor the extent and evolution of the illicit cultivation of narcotics crops on their territories. The results are compiled by UNODC to present global estimates on an annual basis. Data on cultivation of opium poppy and coca bush and production of opium and coca leaf, presented in this report for the main producing countries (Afghanistan, Myanmar and Laos for opium and Colombia, Peru and Bolivia for coca) have been derived from these national monitoring systems operating in the countries of illicit production, covering the period up to, and including 2006. The Government of Morocco, in cooperation with UNODC, also conducted surveys on illicit cannabis cultivation and cannabis resin production in 2003, 2004 and 2005. Estimates for other countries presented in this report have been drawn from replies to UNODC's Annual Reports Questionnaire, from various other sources including reports from Governments, UNODC field offices and the United States Department of State's Bureau for International Narcotics and Law Enforcement Affairs.

The key indicator for measuring progress made towards the supply reduction goals set out in the UNGASS Political Declaration of June 1998 is the area under cultivation of narcotic crops. Since 1999, UNODC has been supporting the establishment of national monitoring systems in the main narcotics production countries. These monitoring systems are tailored to national specificities. The direct participation of UNODC ensures the transparency of the survey activities. Through its network of monitoring experts at headquarters and in the field, UNODC ensures the conformity of the national systems so that they meet international methodological standards and the information requirements of the international community. Most of these monitoring systems rely on remote sensing technology (i.e. analysis of satellite imagery) in combination with extensive field visits which is made possible through UNODC's field presence in all of the main narcotics producing countries. Satellite images, in combination with ground information, offer a reliable and objective way of estimating illicit crops. Depending on the local conditions, the surveys are conducted either on a census approach (coca cultivation in Colombia, Peru and Bolivia, cannabis cultivation in Morocco) or a sample approach

(opium poppy cultivation in Afghanistan, Myanmar and Laos). The accuracy assessment of the individual estimates differs, but is often close to 90%, i.e. 'ground truthing' shows that about 90% of the areas analysed from satellite photos were correctly identified as poppy fields or coca fields. In the case of sampling, the potential error depends on the number of villages investigated and/or on the number of satellite photos taken which form the basis for subsequent extrapolations to the agricultural land. In the case of Afghanistan, for instance, the estimated area under poppy cultivation in the 2006 opium poppy survey ranged, within the confidence interval (α= 0.1) between 150,000 and 180,000 hectares, or +/-9 percent of the calculated value of 165,000 hectares.

In addition, ground surveys, assist UNODC to obtain information on yields, drug prices and various other socio-economic data that is useful for alternative development interventions. Detailed discussion of the methodological approaches can be found in the methodology section of each survey. (http://www.unodc.org/unodc/en/crop_monitoring.html)

UNODC has also started to conduct yield surveys in some countries, measuring the yield of test fields, and to develop methodologies to extrapolate the yields from proxy variables, such as the volume of poppy capsules or the number of plants per plot. This approach is used in South-East Asia as well as in Afghanistan. All of this is intended to improve yield estimates, aiming at information that is independent from farmers' reports. The accuracy of the calculated yields depends on a number of factors, including the number of sites investigated. In the case of Afghanistan the confidence interval for the mean yield results in the 2006 survey was, for instance, +/- 3% of the mean value (α= 0.1).

In areas in which UNODC has not, as yet, undertaken yield surveys, results from other surveys conducted at the national level are used instead. This is currently still the case for some parts of Bolivia (Chapare) while in other parts of the country (Yungas) as well as in Colombia and in Peru UNODC has already conducted yield surveys in cooperation with the local authorities. The disadvantage of having to take recourse to yield data from other sources is that the sampling strategies does not necessarily fit UNODC's definition of an area under cultivation, and that year on year variations due to weather conditions or due to the introduction of improved seeds, fertilizers and pesticides, are not properly reflected in the end results. The new surveys found higher yields than previous estimates had suggested. As a consequence, a number of figures had to be retroactively adjusted and the global cocaine estimates are now slightly higher than those published in previous World Drug Reports.

The transformation ratios used to calculate the potential cocaine production from coca leaf or the heroin production from opium are even more problematic. In order to be precise, these calculations would require detailed information at the local level on the morphine content in opium or the cocaine content in the coca leaf, as well as detailed information on the clandestine laboratory efficiency, which in turn is a function of know-how, equipment and precursor chemicals. This information is not available. A number of studies conducted by enforcement agencies in the main drug producing countries have provided some orders of magnitude for the transformation from the raw material to the end product. The problem is that this information is usually based on just a few case studies which are not necessarily typical for the production process in general. Potential margins of error in this rapidly changing environment, with new laboratories coming on stream while others are being dismantled, are thus, substantial. This also applies to the question of the psychoactive content of the narcotic plants. One study conducted in Afghanistan by UNODC over a couple of years, indicated, for instance, that the morphine content of Afghan opium was significantly higher than had been thought earlier. Based on this study, in combination with information on the price structure (which suggested that at a 10:1 conversion ratio of opium to heroin laboratory owners would lose money), it became clear that this conversion ratio had to be changed. In 2005, the transformation ratio was finally changed to 7:1, following, additional information obtained from interviews with morphine/heroin producers in Afghanistan. This ratio remained unchanged for 2006 as well.[a]

For cocaine, a number of studies have been conducted in the Andean region over the last decade investigating the transformation ratios of coca leaf to cocaine base and cocaine HCL - which also form the basis for UNODC's estimates. However, some of the conversion ratios are not in line with reported price patterns of these substances, raising some questions as to their appropriateness and indicating a need to revisit them. At the same time, it is obviously impossible for UNODC to set up clandestine laboratories and hire 'cooks' in order to improve its statistical basis. All of this underlines the ongoing difficulties to accurately assess global heroin and cocaine production, despite the progress made in assessing the area under cultivation and other aspects of cultivation and production.

[a] Details are summarised in UNODC, Afghanistan Opium Survey 2006, pp. 122-124.

'Potential' heroin or cocaine production shows the level of production of heroin or cocaine if the opium or coca leaf were transformed into the end products in the respective producer country. Part of the opium or the coca leaf is directly consumed in the producing countries or in neighbouring countries, prior to the transformation into heroin or cocaine. In addition, significant quantities of the intermediate products, coca paste or morphine, are also consumed in the producing countries. These factors are partly taken into account. Coca leaf considered licit in Bolivia and Peru is not taken into account for the transformation into cocaine. Similarly, opium consumed in Afghanistan, Iran and Pakistan is not considered to be available for heroin production. As a result, global estimates of 'potential' production should be rather close to 'actual' production. Moreover, as the transformation ratios used are rather conservative, total 'potential' production may well be close to 'actual' production of the end products if one takes the de-facto lower amounts available for starting the transformation process into account.

The use of the concept of 'potential production' at the country level also means that 'actual' heroin or cocaine production is under-estimated in some countries, and over-estimated in others while the estimate for the global level should be only slightly affected by this. The calculation of 'potential' cocaine production estimates for Peru, for instance, exceeds actual local cocaine production as some of the coca paste or coca base produced in Peru is exported to neighbouring Colombia and other countries for further processing into cocaine. Based on the same reasoning, potential cocaine production estimates for Colombia under-estimate actual cocaine production in the country. Actual cocaine manufacture in Colombia takes place from locally produced coca leaf as well as from coca base imported from Peru.

Despite all of these difficulties, the overall accuracy of the global heroin and cocaine estimates has certainly improved over the last few years and can be considered to be reasonably good.

The situation is less satisfactory when it comes to cannabis. In the case of cannabis herb, the globally most dispersed illegal drug, all available production estimates were aggregated. In most cases, these estimates are, however, not based on scientific studies (often reflecting potential yields of eradicated areas rather than actual production) and often refer to different years (as only a limited number of countries provide such estimates in their annual reports questionnaires). A significant number of countries do not provide any estimates. Therefore, a systematic review was undertaken, once again, of all those countries which over the last decade were identified by other countries as a significant cannabis source countries or which reported the seizures of whole cannabis plants (which is indicative of domestic cultivation). For those countries, production was estimated to cover domestic demand, multiplying the number of estimated cannabis users by the average global cannabis herb consumption rate, derived from previous calculations. For countries that were identified as cannabis producing countries but were not identified as major cannabis exporting countries, a certain percentage of domestic demand was used to estimate local production. The percentages chosen depended on quantitative and qualitative information available for different regions. Clearly, this is not an ideal estimation technique but the best that is currently available.

In the case of cannabis resin, scientific information on the – most likely - largest cannabis resin producing country is available which, in combination with seizure statistics, forms a basis for extrapolations to the global level. Another estimate was based on global cannabis herb production estimates and the proportion of resin to herb seizures, assuming that cannabis resin and cannabis herb have the same likelihood to be seized. The average of these two estimates forms UNODC's cannabis resin estimate.

The approach taken to come up with ATS production estimates is one of triangulation, estimating production based on reported seizures of the end products in combination with some assumptions of law enforcement effectiveness, seizure data of precursor chemicals and estimates based on the number of consumers and their likely levels of per capita consumption. The average of these three estimates is then used to arrive at UNODC's global estimates for amphetamine, methamphetamine and ecstasy production. The estimation procedure remained largely unchanged from the one used since the 2004 World Drug Report, which was based on the methodology developed for UNODC's *Study on Ecstasy and Amphetamines, Global Survey 2003*.

Trafficking

The information on trafficking, as presented in this report, is mainly drawn from the Annual Reports Questionnaires (ARQ), submitted by Governments to UNODC in 2006 and early 2007 and refers to the year 2005 (and previous years). Additional sources, such as other Government reports, Interpol, the World Customs Organization (WCO), reports by the Heads of National Law Enforcement Agency (HONLEA), data provided via UNODC's 'Data for Africa' project, data provided via UNODC's, 'Drug Abuse Information Network for Asia and the Pacific' (DAINAP), and UNODC's field offices, were used to supplement the

information. Priority was, however, given to officially transmitted data in the Annual Reports Questionnaire. The analysis of quantities seized, shown in this report, was based on ARQ's returned by 120 countries over the June 2006–May 2007 period, of which 118 countries provided seizure information. Including information from other sources, UNODC has in its data base (DELTA) seizure data from 165 countries for the year 2005, up from 156 countries in 2004. Seizures are thus the most comprehensive indicator of the drug situation and its evolution at the global level. Although they may not always reflect trafficking trends correctly at the national level, they tend to show good representations of trafficking trends at the regional and global levels.

There are some technical problems as – depending on the drugs - some countries report seizures in weight terms (kg), in volume terms (litres) while other countries report seizures in 'unit terms'. In the online interactive seizure report (http://www.unodc.org/ unodc/en/ world_drug_report.html), seizures are shown as reported. In the World Drug Report, seizure data have been aggregated and transformed into a unique measurement: seizures in 'kilogram equivalents'. For the purposes of the calculations a 'typical consumption unit' (at street purity) was assumed to be: cannabis herb: 0.5 grams, cannabis resin: 0.135 grams; cocaine and ecstasy: 0.1 grams, heroin and amphetamines: 0.03 grams, LSD: 0.00005 grams (50 micrograms). A litre of seizures was assumed to be equivalent to a kilogram. For opiate seizures (unless specified differently in the text), it was assumed that 10 kg of opium were equivalent to 1 kg of morphine or heroin. Though all of these transformation ratios can be disputed, they at least provide a possibility of combining all the different seizure reports into one comprehensive measure. The transformation ratios have been derived from those used by law enforcement agencies, in the scientific literature, by the International Narcotics Control Board, and were established in consultation with UNODC's Laboratory and Scientific Section. No changes in the transformation ratios used in last year's World Drug Report were made.

Seizures are used as an indicator for trends and patterns in trafficking. In combination with changes in drug prices or drug purities, changes in seizures can indicate whether trafficking has increased or declined. Increases in seizures in combination with stable or falling drug prices is a strong indication of rising trafficking activities. Increasing seizures and rising drug prices, in contrast, may be a reflection of improved enforcement effectiveness. Changes in trafficking can also serve as an indirect indicator for global production and abuse of drugs. Seizures are, of course, only an indirect indicator for trafficking activities, influenced by a number of additional factors, such as variations in law enforcement practices and changes in reporting modalities. Thus, the extent to which seizure statistics from some countries constitute all reported national cases, regardless of the final destination of the illicit drug, can vary and makes it sometimes difficult to assess actual trafficking activities. The problem is exacerbated by increasing amounts of drugs being seized in countries along the main transit routes, the increasing use of 'controlled deliveries', in which countries forego the possibility of seizing drugs immediately in order to identify whole trafficking networks operating across countries, and 'upstream disruptions', making use of intelligence information to inform partner countries and enable them to seize such deliveries prior to entering the country of final destination. Some of the increase of cocaine seizures in the Andean region in recent years, for instance, may have been linked to such upstream market disruptions.

However, over longer periods of time and over larger geographical entities, seizures have proven to be a good indicator to reveal underlying trafficking trends. While seizures at the national level may be influenced by large quantities of drugs in transit or by shifts in law enforcement priorities, it is not very likely that the same is true at the regional or at the global level. If a large drug shipment, while in transit, is taken out of the market in one country, fewer drugs will be probably seized in the neighbouring countries. Similarly, if enforcement efforts and thus seizures decline in one country, the neighbouring countries are likely to suffer from intensified trafficking activities, resulting in rising levels of seizures. The net results, emerging from changes of enforcement priorities of an individual country, are thus, in general, not significant at the regional or at the global level. Actual changes in trafficking can thus be considered to be among the main reasons for changes in seizures at the regional level or the global level. Indeed, comparisons, on a time-series basis, of different indicators with statistical dependence have shown strong correlations (e.g. global opium production estimates and global seizures of opiates, or global coca leaf production and global cocaine seizures), supporting the statistical worth of seizure statistics at regional and global levels. At the same time, data also show that interception rates have gradually increased over the last decade, reflecting improved law enforcement effectiveness at the global level.

Price and purity data

UNODC also collects and publishes price and purity data. Price and purity data, if properly collected, can be very powerful indicators for the identification of market trends. As supply changes in the short-run are usually stronger than changes on the demand side (which tend

to take place over longer time periods), shifts in prices and purities are a good indicator for actual increases or declines of market supply. Research has also shown that short-term changes in the consumer markets are – first of all - reflected in purity changes while prices tend to be rather stable over longer periods as traffickers and drug consumers at the retail level prefer 'round' prices. UNODC collects its price data from the Annual Reports Questionnaire, and supplements this data set by other sources, such as price data collected by Europol and other organisations. Prices are collected for the farm-gate level, the wholesale level ('kilogram prices') and for the retail level ('gram prices'). Countries are asked to provide minimum, maximum and typical prices and purities. In case no typical prices/purities are provided, UNODC calculates the mid-point of these estimates as a proxy for the 'typical' prices/purities (unless scientific studies are available which provide better estimates). What is not known, in general, is the manner in which the data were collected and their actual statistical representativeness. While some improvements have been made in some countries over the last few years, a number of law enforcement bodies in several countries have not, as yet, discovered the powerful strategic value of such data, once collected in a systematic way, at regular intervals, so that it can be used for statistical analysis, drug market analysis and as an early warning system.

Sources and limitations of data on consumption

Extent of drug abuse

a. Overview

UNODC estimates of the extent of illicit drug use in the world have been published periodically since 1997 (see *World Drug Reports 1997, 2000, 2004, 2005, 2006* and *Global Illicit Drug Trends 2002 and 2003*). The seventh round of estimates, presented in this report, is based on information received until May 2007.

Assessing the extent of drug use (the number of drug users) is a particularly difficult undertaking because it involves measuring the size of a hidden population. Margins of error are considerable, and tend to multiply as the scale of estimation is raised, from local to national, regional and global levels. Despite some improvements in recent years, estimates provided by Member States to UNODC are still very heterogeneous in terms of quality and reliability. These estimates cannot simply be aggregated globally to arrive at the total number of drug users in the world. Yet it is both desirable and possible to establish basic orders of magnitude - which are obviously subject to revision as new and better information is generated.

A global estimate of the level of abuse of specific drugs involves the following steps:

1. Identification and analysis of appropriate sources;
2. Identification of key benchmark figures for the level of drug abuse in selected countries (annual prevalence of drug abuse among the general population age 15-64) which then serve as 'anchor points' for subsequent calculations;
3. 'Standardization' of existing data (e.g. from age group 12 and above to a standard age group of 15-64);
4. Extrapolation of existing results based on information from neighbouring countries with similar cultural, social and economic situations (e.g. lifetime prevalence or current use to annual prevalence, or school survey results to annual prevalence among the general population);
5. Extrapolation of available results from countries in a region to the region as a whole, using all available quantitative and qualitative information;
6. Aggregation of regional results to arrive at global results.

The approach taken to arrive at the global estimates has remained essentially the same since the first attempt was made in 1997.

Estimates of illicit consumption for a large number of countries have been received by UNODC over the years (in the form of Annual Reports Questionnaires (ARQ) submitted by Governments), and have been identified from additional sources, such as other governmental reports and research results from scientific literature. Officially transmitted information in any specific year, however, would not suffice to establish global estimates. Over the period June 2006 to May 2007, for instance, 104 countries provided UNODC with responses to the ARQ on Drug Abuse (Part II), but only 24 countries provided new quantitative estimates of their drug situation for the year 2005, including 14 countries providing estimates of the prevalence of drug consumption among the general population and 16 countries providing estimates of prevalence of drug use among their student populations. With the inclusion of estimates referring to previous years, UNODC has obtained over the years quantitative estimates of the drug situation from 109 countries, including 87 countries providing drug use estimates among the general population and 95 countries providing student population estimates. In cases of estimates referring to previous years, the prevalence rates were left unchanged and applied to new population estimates for the year 2005. For countries that

did not submit information, other sources, where available, were identified. Other sources were also looked for when the officially transmitted prevalence rates in the ARQ were already old. In addition, a number of estimates needed to be 'adjusted' (see below). Using all of these sources, estimates were established for 145 countries, territories and areas. Results from these countries were extrapolated to the sub-regional level and then aggregated into the global estimate.

Detailed information is available from countries in North America, a large number of countries in Europe, a number of countries in South America, a few countries in Oceania (though including the two largest countries) and a limited number of countries in Asia and in Africa. For other countries, available qualitative information on the drug use situation only allows for some 'guess estimates'. In the case of complete data gaps for individual countries, it was assumed that drug use was likely to be close to the respective sub-regional average, unless other available indicators suggested that they were likely to be above or below such an average.

One key problem in currently available prevalence estimates from countries is still the level of accuracy, which varies strongly from country to country. While a number of estimates are based on sound epidemiological surveys, some are obviously the result of guesswork. In other cases, the estimates simply reflect the aggregate number of drug addicts found in drug registries which probably cover only a small fraction of the total drug abusing population in a country.

Even in cases where detailed information is available, there is often considerable divergence in definitions used - registry data (people in contact with the treatment system or the judicial system) versus survey data (usually extrapolation of results obtained through interviews of a selected sample); general population versus specific surveys of groups in terms of age (e.g. school surveys), special settings (such as hospitals or prisons), life-time, annual, or monthly prevalence, etc.

In order to reduce the error from simply aggregating such diverse estimates, an attempt was made to standardize - as a far as possible - the very heterogeneous data set. Thus, all available estimates were transformed into one single indicator – annual prevalence among the general population age 15 to 64 and above - using transformation ratios derived from analysis of the situation in neighbouring countries, and if such data were not available, on estimates from the USA, the most studied country worldwide with regard to drug use.

The basic assumption is that the level of drug use differs between countries, but that there are general patterns (e.g. lifetime time prevalence is higher than annual prevalence; young people consume more drugs than older people) which apply universally. It is also assumed that the ratio between lifetime prevalence and annual prevalence among the general population or between lifetime prevalence among young people and annual prevalence among the general population, do not vary too much among countries with similar social, cultural and economic situation. Various calculations of long-term data from a number of countries seem to confirm these assumptions.

In order to minimize the potential error from the use of different methodological approaches, all available estimates for the same country - after transformation - were taken into consideration and - unless methodological considerations suggested a clear superiority of one method over another - the mean of the various estimates was calculated and used as UNODC's country estimate.

b. Indicators used

The most widely used indicator at the global level is the annual prevalence rate: the number of people who have consumed an illicit drug at least once in the last twelve months prior to the survey. As "annual prevalence" is the most commonly used indicator to measure prevalence, it has been adopted by UNODC as the key indicator to measure the extent of drug use. It is also part of the Lisbon Consensus[b] (20-21 January 2000) on core epidemiological demand indicators (CN.7/2000/CRP.3). The use of "annual prevalence" is a compromise between "life-time prevalence" data (drug use at least once in a life-time) and data on current use (drug use at least once over the last month). Lifetime prevalence data are, in general, easier to generate but are not very illustrative. Data on current use are of more value. However,

[b] The basic indicators to monitor drug abuse, agreed by all participating organizations that formed part of the Lisbon Consensus in 2000, are:

- Drug consumption among the general population (estimates of prevalence and incidence);
- Drug consumption among the youth population (estimates of prevalence and incidence);
- High-risk drug abuse (estimates of the number of injecting drug users and the proportion engaged in high-risk behaviour, estimates of the number of daily drug users);
- Utilization of services for drug problems (number of individuals seeking help for drug problems);
- Drug-related morbidity (prevalence of HIV, hepatitis B virus and hepatitis C virus among illicit drug consumers);
- Drug-related mortality (deaths directly attributable to drug consumption).

While in the analysis of the drug abuse situation and drug abuse trends all these indicators were considered, when it came to provide a global com parison a choice was made to rely on the one key indicator that is most available and provides an idea of the magnitude for the drug abuse situation: annual prevalence among the population aged 15 to 64.

they often require larger samples in order to obtain meaningful results, and are thus more costly to generate, notably if it comes to other drugs than cannabis which is widespread.

The "annual prevalence" rate is usually shown as a percentage of the youth and adult population. The definitions of the age groups vary, however, from country to country. Given a highly skewed distribution of drug use among the different age cohorts in most countries (youth and young adults tend to have substantially higher prevalence rates than older adults or retired persons), differences in the age groups can lead to substantially diverging results. Typical age groups used by UNODC Member States are: 12+; 14+: 15+; 18+; 12-60; 16-59; 18-60; 15-45; 15-75; and increasingly age 15-64. The revised version of the Annual Reports Questionnaire (ARQ), adopted by Member States, which since 2001/02 has replaced the previous ARQ, stipulates the age group 15-64 as the key population group for which drug use to be measured against. Prevalence data in this report are thus reported for the age group 15-64. In case the age groups reported by Member States did not differ significantly from this age group, they were presented as reported and the age group was explicitly added. In cases where studies were based on significantly different age groups, results were adjusted to the age group of 15-64. (See below).

The methods used for collecting data on illicit activities vary from country to country. This reduces comparability. Possibilities to reduce differences – ex post – arising due to different methodological approaches are limited. UNODC thus welcomes efforts at the regional level to arrive at more comparable data (as is currently the case in Europe under the auspices of EMCDDA and in the Americas under the auspices of CICAD).

In a number of cases, diverging results are also obtained for the same country, applying differing methodological approaches. In such cases, the sources were analysed in-depth and priority was given to the methodological approaches that are usually also used in other countries. For example, it is generally accepted that household surveys are reasonably good instruments to estimate cannabis, ATS or cocaine use among the general population. Thus household survey results were usually given priority over other sources of prevalence estimates, such as reported registry data from the police or from treatment providers.

However, when it comes to heroin abuse (or drug injecting), there seems to be a general agreement that annual prevalence data derived from national household surveys tend to grossly under-estimate such abuse because severe heroin addicts often do not live in households.[c] They may be homeless, in hospitals or in prisons. Moreover, heroin abuse is highly stigmatized so that the willingness to openly report a heroin abuse problem is limited. However, a number of indirect methods have been developed over the last two decades to provide estimates for this group of problem drug users. They include various multiplier methods (e.g. treatment multipliers, police data multipliers, HIV/AIDS multipliers or mortality multipliers), capture-recapture methods, and multivariate indicators.

Whenever such indirect estimates for problem drug use were available, they were given priority over household survey results. Most of the estimates for problem drug use were obtained from European countries. Unless there was evidence that a significant proportion of problem drug use was related to the use of other drugs, it was assumed that the problem drug use concerned opiates. In the case of some of the Nordic countries, where amphetamine use is known to account for a significant proportion of overall problem drug use, the data of reported problem drug users were corrected by applying the proportion of opiate consumers in treatment in order to arrive at estimates for opiate abuse. This also applied to estimates for Spain, where cocaine has gained a significant proportion among problem drug users.

For other drugs, priority was given to annual prevalence data found by means of household surveys. A number of countries, however, did not report annual prevalence data, but lifetime or current use of drug consumption, or they provided annual prevalence data but for a different age group. In order to arrive at basically comparable results, it was thus necessary to extrapolate from reported current use or lifetime prevalence data to annual prevalence rates and/or to adjust results for differences in age groups.

[c] The problem of under-estimation is more widespread for heroin, but it is not excluded for other drugs such as cocaine or methamphetamine.

Indirect methods to measure problem drug use

Treatment multiplier: If a survey among heroin addicts reveals, for instance, that one quarter of them was in treatment in the last year, the multiplication of the registered treatment population with a multiplier of four provides an estimate of the likely total number of problem heroin users in a country.

Police data multiplier: Similarly, if a survey among heroin addicts reveals that one out of five addicts was arrested in the previous year, a multiplication of the persons arrested for heroin possession by the multiplier (five) provides another estimate for the number of heroin users. Establishing various multipliers and applying them to the registered drug using population, provides a range of likely estimates of the heroin abuse population in a country. Either the mid-point of the range, the median or the mean of these estimates can be subsequently used to arrive at a national estimate.

Capture-recapture models are another method based on probability considerations, which can be undertaken without additional field research.[d] If in one register (e.g. arrest register) 5000 persons are found (for possession of heroin) and in a second register (e.g. treatment register) 2000 persons are found (for treatment of heroin abuse), and there are 400 persons who appear in both registries, it can be assumed that 20% (400/2000) of the drug addicts have been arrested, so that the total heroin addict population could be around 25,000 (5000/20%), five times larger than the total number of arrested heroin users.[e] Results can usually be improved if data from more than two registers are analysed (e.g. data from arrest register, treatment register, ambulance register, mortality register, substitution treatment register, HIV register etc). More sophisticated capture-recapture models exist, and are used by some advanced countries, in order to make calculations based on more than two registries. However, in order to arrive at reasonable orders of magnitude of the heroin problem in a particular country it is probably sufficient to calculate the various combinations shown above and subsequently report the mid-point, the median or the mean of the resulting estimates.

Another interesting approach is the use of multivariate indicators. For this approach, a number of local/regional studies are conducted, using various multiplier and/or capture-recapture methods. Such local studies are usually far cheaper than comprehensive national studies. They serve as anchor points for the subsequent estimation procedures. The subsequent assumption is that drug abuse at the local level correlates with other data that are readily available. For instance, heroin arrest data, heroin treatment data, IDU related HIV data, etc. are likely to be higher in communities where heroin abuse is high and lower in communities where heroin abuse is low. In addition, heroin abuse may correlate with some readily available social indicators (higher levels in deprived areas than in affluent areas; higher levels in urban than in rural areas etc). Taking all of this additional information into account, results from the local studies are then extrapolated to the national level.

c. Extrapolation methods used

The methods used for these adjustments and extrapolations are best explained by providing a number of concrete examples:

Adjustment for differences in the age groups:

New Zealand, for instance, carried out a household survey in 2001, covering the population age 15-45. According to this survey, annual prevalence of ecstasy use was found to affect 3.4% of the population 15-45, equivalent to about 56,000 people. Given the strong association between ecstasy use and younger age groups it can be assumed that there is little ecstasy use in the 45+ age group. Thus, dividing the ecstasy using population established above by the age group 15-64 gives an estimated prevalence rate of 2.2%.

The situation is slightly more complex when it comes to cocaine. The same approach for New Zealand would lower the annual cocaine prevalence rate from 0.6% of the population age 15-45 to 0.4% of the population age 15-64. In this case, however, it must be assumed that there are still some people above the age of 45 consuming cocaine. A rate of 0.4% is thus a minimum estimate. An alternative estimation approach is indicated. Thus, the relationship between cocaine consumption among the group of those age 15-45 and those age 15-64 in

[d] Such methods were originally developed to estimate the size of animal population. If, for instance, 200 fish are caught (' capture'), marked, and released back into the lake, and then the next day 100 fish are caught, of which 10 were already marked ('re-captured'), probability considerations suggest that the number of fish captured the first day were a 10% sample of the total population. Thus the total population of the lake can be estimated at around 2000 fish.

[e] The advantage of this method is that no additional field research is necessary. There are, however, problems as the two ' sampling processes' for the registries in practice are not independent from each other so that some of the underlying assumptions of the model may be violated (e.g. the ratio could be higher as some of the people arrested are likely to be transferred to a treatment facility; thus the ratio does not correspond any longer to the true proportion of people arrested among the addicts population, and may lead to an under-estimation of the total heroin addict population).

other countries was investigated. The finding was that the prevalence rate of cocaine use among those age 15-64 tends to be around 75% of the prevalence rate of those age 15-45. Instead of 0.4%, the cocaine prevalence rate in New Zealand has thus been estimated to affect 0.45% of the population age 15-64.

Similar considerations were also used for the age-group adjustment of data from other countries. A number of countries reported prevalence rates for the age groups 15+ or 18+. In these cases it was generally assumed that there was no significant drug use above the age of 65. The number of drug users based on the population age 15+ (or age 18+) was thus simply shown as a proportion of the population age 15-64.

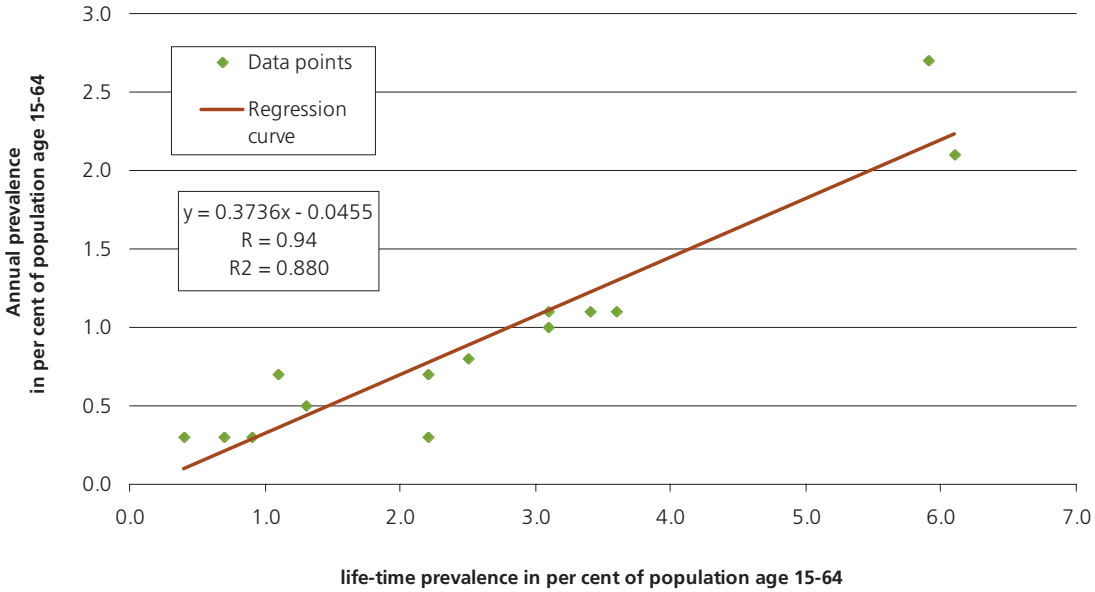
Extrapolation of results from lifetime prevalence to annual prevalence

Some countries have conducted surveys in recent years, but did not ask the question whether drug consumption took place over the last year. In such cases, results can be still extrapolated to arrive at annual prevalence estimates and reasonably good estimates can be expected. Taking data for life-time and annual prevalence of cocaine use in countries of Western Europe, for instance, it can be shown that there is a rather strong positive correlation between the two measures (correlation coefficient R = 0.94); i.e. the higher the life-time prevalence, the higher is, in general, annual prevalence and vice versa. Based on the resulting regression curve (y = 0.3736 * x - 0.0455 with y = annual prevalence and x = life-time prevalence) it can be estimated that a West European country with a life-time prevalence of 2% is likely to have an annual prevalence of around 0.7% (also see figure).

Almost the same result is obtained by calculating the ratio of the unweighted annual prevalence rates of the West European countries and the unweighted life-time prevalence rate (0.93/2.61 = 0.356) and multiplying this ratio with the life-time prevalence of the country concerned (2% * 0.356 = 0.7%).

A similar approach was used to calculate the overall ratio by averaging the annual/life-time ratios, calculated for each country.[f] Multiplying the resulting average ratio (0.387) with the lifetime prevalence of the country concerned provides the estimate for the annual prevalence (0.387 * 2% = 0.8%). This approach also enables the calculation of a confidence interval for the estimate.

Annual and lifetime prevalence rates of cocaine use in Western Europe



Sources: UNODC, Annual Reports Questionnaire Data / EMCDDA, Annual Report.

[f] For each country the ratio between annual prevalence and lifetime prevalence is calculated. The results are than averaged: In our example: (0.64 + 0.32 + 0.43 + 0.14 + 0.32 + 0.38 + 0.35 + 0.32 + 0.75 + 0.31 + 0.32 + 0.33 + 0.46+ 0.34) : 14 = 0.387

With a 95% probability the likely annual prevalence estimate for the country concerned falls within a range of 0.6% to 1%.[g] Given this close relationship between life-time and annual prevalence (and an even stronger correlation between annual prevalence and monthly prevalence), extrapolations from life-time or current use data to annual prevalence data was usually given preference to other kinds of possible extrapolations.

But, good estimation results (showing only a small potential error) can only be expected from extrapolations done for a country located within the same region. If instead of using the West European average (0.387), the ratio found in the USA was used (0.17), the estimate for a country with a lifetime prevalence of cocaine use of 2% would decline to 0.3% (2% * 0.17). Such an estimate is likely to be correct for a country with a drug history similar to the United States. The USA has had a cocaine problem for more than two decades and is thus confronted with very high lifetime prevalence rates while it made considerable progress in reducing cocaine consumption as compared to the mid 1980s. All of this leads to a small proportion of annual prevalence to lifetime prevalence. In Western Europe, by contrast, the cocaine problem is a phenomenon of the last decade and still growing.

Against this background, data from countries in the same region were used, wherever possible, for extrapolation purposes. Thus, data from Central and Eastern Europe were used to extrapolate results for other countries in the region which did not collect annual prevalence rates. Most of these countries had very low drug abuse levels during the cold war, which, however, grew rapidly in the 1990s.

Extrapolations based on treatment data

For a number of developing countries, the only drug related data available on the demand side was treatment demand. In such cases, the approach taken was to look for other countries in the region with a similar socio-economic structure, which reported annual prevalence data and treatment data. As a next step, the ratio of people treated per 1000 drug users was calculated for each country. The results from different countries were then averaged and the resulting ratio was used to extrapolate the likely number of drug users from the number of people in treatment.

Extrapolations based on school surveys

Analysis of countries which have conducted both school surveys and national household surveys shows that there is, in general, a positive correlation between the two variables, particularly for cannabis, ATS and cocaine. The correlation, however, is weaker than that of lifetime and annual prevalence or current use and annual prevalence among the general population but stronger than the correlation between opiate use and IDU-related HIV cases and, stronger than the link between treatment and drug use.

Extrapolation to regional and global level

The next step, after having filled, as far as possible, the data gaps, was to calculate the average prevalence for each sub-region. For this purpose the reported/estimated prevalence rates of countries were applied to the population aged 15-64, as provided by the United Nations Population Division for the year 2005. For the remaining countries, for which no estimate could be made, the average prevalence rate of the respective sub-region was applied, unless some additional information suggested that the sub-regional average would be too high or too low for the countries concerned. All of these 'adjustments', based on qualitative information, affected the overall estimate only slightly.

Following the detailed calculation of all of the sub-regional estimates, the individual sub-regional estimates ('number of drug users') were aggregated to form a regional estimate, and the regional estimates were then aggregated to arrive at the global estimates.

d. Concluding remarks

It goes without saying that each method of extrapolating results from other countries is not without problems and despite of efforts made, results of these estimations for individual countries must be still interpreted with caution. However, this should not influence the overall results as some under-estimates are, most probably,

[g] The calculation of the confidence interval can be done as follows:

1).Determination of alpha (usually 0.05);

2).Determination of the number of observations (14 in this case) and 3. Calculation of the standard deviation (0.1502 in this example). This allows to calculate the standard error (standard deviation : (square root of n), i.e. (0.1502 : (square root of 14)) = 0.040)). The z value for alpha equalling 0.05 is 1.96. Multiplying the standard error with the z-value (0.040*1.96) would give the confidence interval (+/- 0.078). But, given the low number of observations (where n< 30), the use of t-statistics is indicated instead. In this case, the standard error must be multiplied with the appropriate t-value (2.145 for n-1 degrees of freedom (14-1) and alpha equalling 0.05 for two-sided t-statistics as can be found in t-value statistics). The result is a confidence interval of +/- 0.0858 (=0.040 * 2.145). Several spreadsheet programs provide such statistics automatically. In Excel, for instance, the 'descriptive statistics' in tool menu under 'data analysis' calculates the confidence interval automatically and uses the t-statistics, wherever appropriate. Applying the +/-0.086 confidence interval to the average ratio calculated above to the mean ratio of 0.387 gives a range of ratios of 0.301 to 0.473. Using the two ratios one arrives at a minimum estimate of the annual prevalence rate of 0.6% (2% * 0.301) and a maximum estimate of the annual prevalence rate of 0.95% (2% * 0.473).

offset by over-estimates, and vice-versa, and every attempt has been made to avoid any systematic bias in the estimation process. Moreover, in order to reduce the risk of any systematic bias, estimations were based, as far as possible, on the data from neighbouring countries in the region.

It is, however, recognized that the currently provided estimations can change considerably once survey data becomes available. UNODC's methodology to arrive at global estimates by extrapolating results from a sample of countries (for which data is available) to a sub-region, also means that methodological changes can have a significant impact on the final estimates. In many cases though, actual survey data received from Member States turned out to be rather close to UNODC's estimates.

The global estimates presented in this report must, nonetheless, be treated with caution. They provide likely orders of magnitude, as opposed to precise statistics on the prevalence and evolution of global drug abuse. Further changes can be still expected as countries provide more robust estimates based on rigorous scientific methods. Nonetheless, in the absence of global studies on drug abuse, the estimations and the estimation procedures provided in this report guarantee the best picture that is currently obtainable.

Trends in drug use

a. Overview

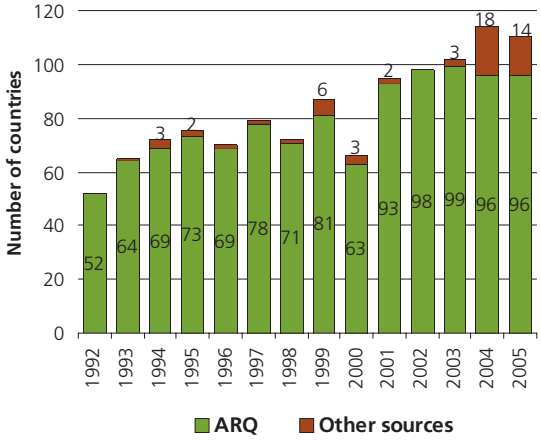
Ideally, global trends in drug use should be monitored by comparing estimates of drug use in one year with those found in a subsequent year. In practice, however, this approach does not always work as some changes in the global estimates are always due to methodological improvements and not due to underlying changes in drug use. Moreover, general population surveys are very expensive to conduct and only a few countries have an ongoing monitoring system based on these instruments.

Many countries collect, however, routine data such as the number of persons arrested for drug abuse, urine testing of arrestees, number of persons undergoing drug treatment, drug hotlines, drug related emergency department visits, drug related interventions by ambulances, or they monitor drug use based on school surveys. In addition, drug experts dealing on a regular basis with drug issues – even without having precise data at hand – often have a good feeling about whether use of certain drugs is increasing, stabilizing or declining in their constituency.

This knowledge base is regularly tapped by UNODC. Member States usually pass the Annual Reports Questionnaire to drug experts in their country (often in the ministry of health) who provide UNODC with their perception, on a five-point scale, of whether there has been a 'large increase', ' some increase', ' no great change', some decrease' or a 'large decrease' in the use of the various drugs over the past year. The perceptions may be influenced by a number of factors and partial information, including police reports on seizures and arrests, reports from drug treatment centres, reports from social workers, press reports, personal impressions, etc. Any of these influencing factors could contain a reporting bias which has the potential to skew the data towards a misleading increase or decrease. Prioritization of the drug issue is another factor which influences reporting. It can probably be assumed that the countries which reply regularly to the ARQ are those which take the drug problem more seriously. In a number of cases this is a consequence of rising levels of drug use and thus increased public awareness of the problem. All of this suggests that the sample of countries replying to the ARQs may be slightly biased towards countries faced with a deteriorating drug problem. Results based on trend data must thus be treated with caution and should not be over-interpreted.

Despite these caveats, trend data provide interesting insights into the growth patterns of individual drugs as well as into regional and global growth patterns. They represent the most comprehensive data set of expert opinion available on the development of the drug abuse problem at the global level, provided in a consistent manner over more than a decade.

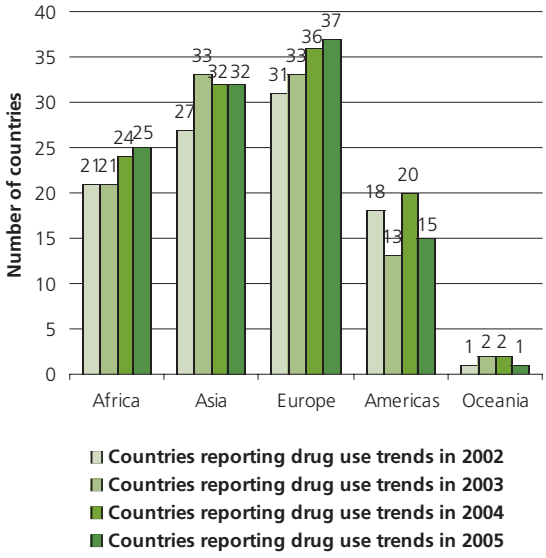
Number of countries & territories reporting drug use trends to UNODC



Sources: UNODC, Annual Reports Questionnaire Data; UNODC Field Office, UNODC, 'Data for Africa project', UNODC, DAINAP, UNODC, GAP, EMCDDA, CICAD, HONLEA reports.

Replies to the Annual Report Questionnaire (ARQ) on trends in drug use are far more comprehensive than on estimating the number of drug users. The analysis on drug use trends for the year 2005 was based on the replies of 96 countries and areas, about the same number as a year earlier, up from 52 countries and areas in 1992. Including information gathered from other sources (Government reports, UNODC Field Offices, UNODC's Data for Africa Project, UNODC's Drug Abuse Information Network for Asia and the Pacific (DAINAP), EMCDDA, CICAD, HONLEA reports and local studies) trend data from 110 countries and territories formed the basis for the subsequent analysis. The distribution of countries reporting in 2005 was roughly the same as in previous years and provides a reasonably good coverage across all regions.

Regional distribution of reports received on drug use trends for the years 2002-2005



Source: UNODC, Annual Reports Questionnaire Data.

b. Aggregating trend data

Various methods have been developed and have been used in this report for the trend aggregation. The 'traditional' method consists of simply counting the number of countries reporting increasing, stable and declining levels of drug abuse. Changes in the net results, i.e. number of respondents reporting increases less those reporting declines, have proven to be a good and useful indicator for showing overall changes in the trend. This is in line with business cycle trend analysis where enterprises are asked on a routine basis about their perceptions of whether production is expected to increase, remain stable, or fall over the new few months, and where the net results (number of increasing trends less number of falling trends) are recorded and presented in order to identify changes in trends. For the purpose of calculating this indicator, the categories 'strong increase' and 'some increase' are aggregated into a new category 'INCREASE'. Similarly, the categories 'strong decline' and 'some decline' are aggregated into a new category 'DECLINE'. 'INCREASE' less 'DECLINE' gives the 'net change'.

The advantage of this method for describing drug trends at the global level is that a large number of actors, independent of each other, express their views on the trends in their countries. Though some experts may well report wrong trend data, it is unlikely that mistakes all go in the same direction. The disadvantage of this approach is that it gives equal weight to the reports of small and big countries, which can be potentially misleading if global trends are to be identified.

Drug Use Trends as perceived by experts

Another analytical tool, referred to in this report as Drug Use Trends as perceived by experts, has been designed by UNODC to allow for a different presentation of regional and global trends in drug use, reported by Member States to UNODC. The Drug Use Trend as perceived by experts builds on previous work of UNODC which resulted in the concept of a Weighted Analysis on Drug Abuse Trends (WADAT) in 2004.

The trend is constructed as follows: each degree of trend estimation is given a numerical value ranging from –2 to +2 (–2 representing a 'large decrease'; –1, 'some decrease'; 0, 'no great change'; +1, 'some increase'; and +2, 'a large increase'). Estimates for each drug type are then multiplied by the proportion of the drug using population of the country in relation to the drug using population at the global level. The national estimates are subsequently added to represent a global trend estimate for each drug type. The results are shown as a cumulative trend curve.[h]

In the 2004 World Drug Report, the trends provided by Member States had been weighted by the size of a country's population, in line with the original WADAT concept. Using the population as the weighting instrument

[h] If country X, which has 2% of the world cocaine population, reports a 'strong increase' in cocaine use, the calculation is as follows:

2 * 0.02 = 0.04. If country Y, which has 3% of the world population reports 'some decline', the calculation is: -1*0.03 = -0.03. The values of all other countries are then calculated the same way and aggregated. For 2005, the net result for cocaine was -0.19. This number is then added to last year's number: 103.41 + (-0.19) = 103.22.

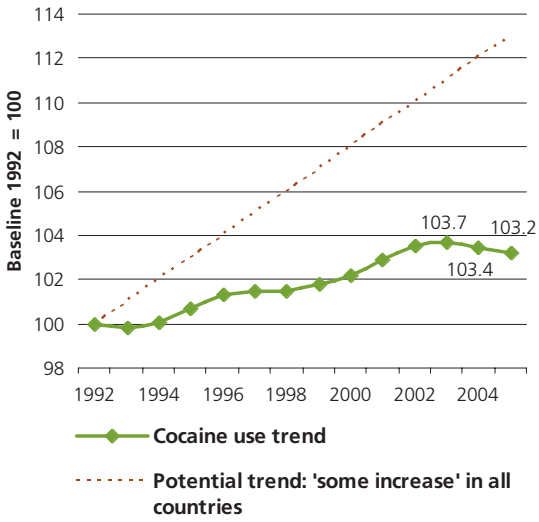
shows, in general, reasonable results at the regional level when drug prevalence rates do not differ drastically among countries. It creates, however, a serious problem once an attempt is made to apply the concept to the global level, notably for drugs which have distinct regional distribution patterns. For instance, cocaine use is concentrated in the Americas and in Western Europe while consumption levels in Asia are still minimal. If a highly populated country in Asia, like India, reports a rise in cocaine use, this rise is typically from very low levels. It must not be ignored, but it has, for the time being, not much impact on global cocaine consumption. Weighting the trend data with population data would, however, raise the global trend for cocaine consumption sharply. Such results could be potentially misleading.

Thus, an alternative solution was sought to overcome this problems. The option chosen was to use for cocaine, for instance, UNODC's estimates on the number of cocaine users per country as the weighting factor. For countries, for which no prevalence estimates exist, the average prevalence rate of the respective sub-region is taken as a proxy for the unknown actual prevalence rate. Based on this approach, prevalence estimates become available for all countries of the world. Of course, for some countries the 'weight' given to their trend data may be slightly too small and for others slightly too big, but the potential error resulting from this procedure is less than the potential error from weighting the trend with the general population.

The following graph shows the results for cocaine, starting with 1992 as a baseline (=100). The graph shows an upward trend over the 1992-2003 period, followed by a moderate downward trend over the 2003-2005 period. This suggests that after an increase over the 1992-2003 period cocaine use has declined slightly at the global level over the subsequent two years. The fact that the trend line is now at 103.2, and thus above 100, indicates that there was a net-increase in cocaine consumption over the 1992-2005 period. But, how important was the increase? If all countries had reported a 'strong' increase every year from 1992 to 2005, the composite perception trend would have reached a level of 126 (2 points per year); if all countries had reported 'some increase' every year, the trend would be now at 113 (1 point per year); if countries had considered the trend to have been stable, the line would have remained stable at 100. If countries had reported every year 'some decline', the trend would be at 87, and in case of a 'strong decline' at 74.

One advantage of this tool is that it takes the trends reported by Member States and the size of their drug using population into account. In other words, the trend gives more weight to the results reported from countries with a large cocaine using population than to

Cocaine use trends* as perceived by experts: 1992-2005



Sources: UNODC, Annual Reports Questionnaire Data, UNODC Field Offices, UNODC's Drug Abuse Information Network for Asia and the Pacific (DAINAP), UNODC, Global Assessment Programme on Drug Abuse (GAP), Govt. reports, EMCDDA, CICAD, HONLEA reports and local studies.

those with small numbers of cocaine users. This is in line with the observation that the impact of a rise in drug consumption in a country with large numbers of drug users has a greater impact on global drug consumption than the rise in some other countries where drug use has just started. Another advantage is that the trend takes into account the degree of change in drug use levels, thus making better use of all information made available to UNODC by Member States.

There are, of course, also limitations that need to be taken into account when interpreting the results. The information provided remains, in most cases, an expert opinion and is not necessarily based on scientific evidence. While this tool assists in the analysis of trends, the quality of these perceptions remains the key issue. A mistake made by an expert in a country with a large drug using population can seriously distort the global trend estimates. There is also a danger that some experts may have a political agenda. Thus, this tool cannot be seen as substitute for serious scientific studies on the prevalence of drug consumption in a country. Moreover, it cannot be taken for granted that the differences between various degrees of drug use trends ("some decrease" and "large decrease") are interpreted the same way across countries, or even in the same country in different reporting years.

Reporting trends in the use of a drug type may be also biased by opposing trends for the individual substances (cocaine HCL, coca paste/base, crack-cocaine). For the

purpose of this report, not just the drug group but each individual drug has been taken into consideration. The unweighted average of all reported trends within a drug group are calculated. While for some countries, the detailed profile of substance use is known (which could give more accurate results), this is not the case for many others. Thus the general rule of averaging all drugs within one category has been applied.

It should also be noted that the Drug Use Trend as perceived by experts is limited in that it only provides general directions with regard to the main drug types reported by Member States, inevitably leading to very broad generalization. Thus, there remains a need for more drug-specific trend analysis to support the conclusions.

Development of other innovative methods to measure the extent and trends in drug consumption: the analysis of waste-water

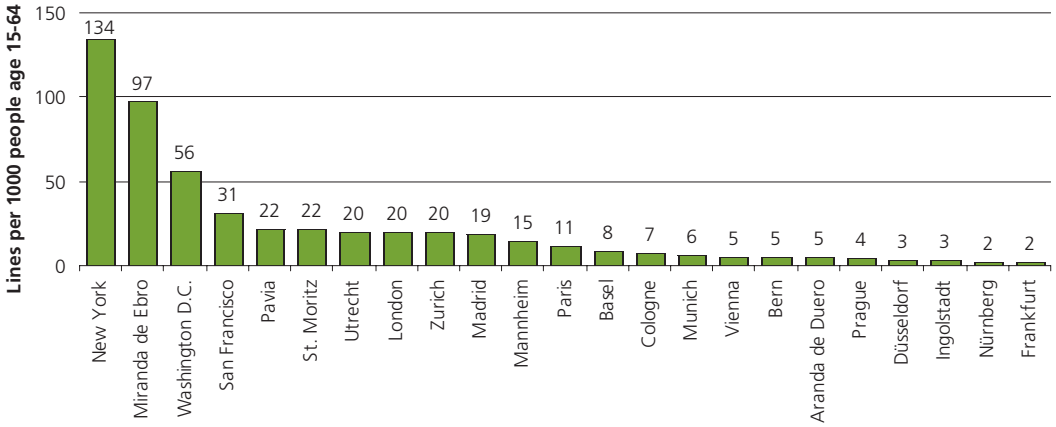
Given the difficulties to measure drug consumption based on self-reports (house-hold surveys) and to identify trends based on various indirect indicators (treatment demand, arrests etc.), scientists have also started to explore the possibility to develop alternative approaches to measure the extent of drug consumption. UNODC has not been involved in this exercise but it considers such attempts to be potentially interesting avenues.

Starting in Italy in 2005,[i] and later in the UK and in Germany,[j] several groups of scientists have started to experiment with the analysis of residuals in waste-water, in order to calculate backwards the amounts of cocaine consumed. The assumption is that cocaine that has been consumed is eventually leaving the human body and - in developed areas - most of this will land in waste-water systems in the form of benzoylecgonine, a breakdown product from cocaine after it had been processed by the human liver. The analysis is thus based on the identification of benzoylecgonine in waste water. This is an interesting marker as it – apparently - does not come from any other source than the organic processing of cocaine.

There can be no doubt that this is a highly innovative approach, making use of the capabilities of modern science. First publications provide reasonable orders of magnitude of the problem as will be shown below.

The studies suggest, for instance, that the Hudson River carries the waste of some 16 tons of cocaine consumed per year in New York. The Rhine in Germany carries the waste of some 9 tons of cocaine consumed along its

Estimated cocaine consumption based on waste-water analysis, 2005/06 (expressed as cocaine lines* per day per 1000 inhabitants, age 15-64)



* 1 line was here assumed to be equivalent to 100 milligram of cocaine.

Source: Institute for Biomedical and pharmaceutical Research, *Fist ever comparative multi-country study of cocaine use by a new measurement technique,* Nürnberg, November 2006.

[i] In the first Italian tests, 500 ml samples of waste water were collected every 40 minutes on 4 days from the Po at Mezzano, Pavia. The analysis found 25 nanograms of benzoylegonine (BE) per litre waste-water as well as 1.2 nanograms of cocaine per litre. The flow rate of the Po was found to be 1 m3 per sec-1; The BE/cocaine molecular mass ratio is 0.954; 45% of a cocaine dose is typically being excreted as BE. Based on this information the cocaine load of the Po could be calculated to amount to 3.8 kg per day or 1387 kg per year (based on the assumption in these four days was typical for the consumption during the year). Ettore Zuccato Mario Negri Institute for Pharmacological Research, Chiara Chiabrando, Sara Castiglioni , Davide Calamari, Renzo Bagnati, Silvia Schiarea and Roberto Fanelli, "Cocaine in surface waters: a new evidence-based tool to monitor community drug abuse" in Environmental Health: August 2005 (http://www.ehjournal.net/content/4/1/14)

[j] Institute for Biomedical and pharmaceutical Research, *Fist ever comparative multi-country study of cocaine use by a new measurement technique,* Nürnberg, November 2006.

[k] But, even this would be surprising as Frankfurt airport constitutes one of the main supply routes of cocaine into Germany.

banks. The Potamic River in Washington carries the waste of some 7 tons of cocaine consumed, etc. If measured against the size of the population, data show very high levels of cocaine consumption in New York (134 lines of cocaine per day per 1000 inhabitants age 15-64) and in Washington D.C. (56) while consumption appears to be still non-existent in some parts of Romania (Arges river), and at relatively low levels in Prague (4 lines per 1000 inhabitants). This is again plausible as methamphetamine is the drug of choice in this city and cocaine is mostly consumed by foreign tourists. High levels of cocaine use in Europe were found along the Ebro (Spain), along the Po (Italy) and along the Thames (UK). The studies in Italy found high levels of cocaine waste along the Po in northern Italy, but low levels along rivers in Sardinia and southern Italy, which is very much in line with all existing epidemiological information. But, there were also some surprising results, such as the very low values found for Frankfurt (2 lines per 1000 inhabitants age 15-64). Existing epidemiological data would have predicted higher figures. There could have been a temporary shortage on the market when the analysis took place,[k] or some other reasons to explain this potential anomaly.

The overall highest levels of cocaine consumption were found in the United States, followed by Spain, Italy and the UK. All of this is basically in line with other information, suggesting that the measurement techniques used for these studies are, in general, precise enough to generate reasonably accurate data to differentiate between locations.

Cocaine use in selected sites - results from waste-water studies, 2005-2006

Country	Town	River	Estimated cocaine per year (tons)	Number of lines (100 mg) per day	Lines per 1000 inhabitants per day
USA	New York	Hudson River	16.400	449,814	90
	Washington	Potomac river	7.360	201,725	38
	San Francisco	Bay	6.070	166,179	21
	unweighted average			272,573	50
Spain	Miranda de Ebro	Ebro	0.532	14,576	65
	Madrid	Manzanares	1.420	38,937	13
	Aranda de Duero	Duero	0.015	417	3
	unweighted average			17,977	27
Italy	Pavia	Po	2.850	78,187	14
United Kingdom	London	Thames	0.975	26,709	13
Netherlands	Utrecht	Vecht	0.145	3,981	13
Switzerland	St. Moritz	Inn	0.029	795	15
	Zurich	Limmat	0.103	2,814	13
	Basel	Rhie	0.944	25,864	5
	Bern	Aare	0.025	687	3
	unweighted average			7,540	9
France	Paris	Seine	1.760	48,353	7
Germany	Mannheim	Rhine	9.400	257,599	10
	Cologne	Rhine	9.050	248,004	5
	Munich	Isar	0.283	7,767	4
	Düsseldorf	Rhine	4.450	121,912	2
	Ingolstadt	Danube	0.129	3,532	2
	Nürnberg	Pegnitz	0.070	1,926	1
	Frankfurt	Main	0.372	10,205	1
	unweighted average			92,992	4
Austria	Vienna	Danube	1.010	27,536	3
Czech Republic	Prague	Moldau	0.132	3,611	3
Romania	-	Arges*	-	-	-
Unweighted average of all sites in Europe				**43,972**	**9**
Weighted* average of Europe				**50,222**	**11**
Unweighted average of all sites - global				**72,547**	**14**

Source: Institute for Biomedical and Pharmaceutical Research, *Fist ever comparative multi-country study of cocaine use by a new measurement technique,* Nürnberg, November 2006.

While UNODC is not in a position to verify the accuracy of all individual city results, there are still possibilities to undertake some broad plausibility checks, cross-checking the waste-water results with information from other sources.

If the average per capita values for each country are taken and multiplied with the population of the country, data suggest that cocaine consumption in the ten European countries, where such analyses took place, could be close to 140 metric tons. Extrapolated to the whole of West and Central Europe (based on a calculated weighted average of 11 lines of cocaine per day per 1000 inhabitants), one could reckon with a market of some 190 metric tons. As the selection of the cities has not been representative for each country but biased toward location with higher levels of cocaine consumption - which is particularly obvious in cases where only one location per country was tested (such as London or Paris) - total European consumption can be expected to be still smaller. In order to account for this about a quarter could be probably subtracted, leaving a net consumption of some 140 metric tons of cocaine.[1] In fact, this estimate turns out to be very similar to the estimate of Europol that some 250 metric tons of cocaine are being shipped to Europe. Deducting seizures made by the European law enforcement agencies, leaves some 140 metric tons for domestic consumption.

A calculation for the US market, based on the average of the three selected cities of New York, Washington and San Francisco (50 lines per day per 1000 inhabitants) would result in an over-estimate, reflecting the fact that in many parts of the US cocaine consumption is known to be substantially lower than in New York. Disregarding the high results from New York and extrapolating from data from Washington D.C. (38 lines per 1000 inhabitants per day) and San Franciso (21 lines per day per 1000 inhabitants), the average US estimate could be around 270 metric tons. This would be a reasonable estimate for the size of the US market, in line with previously reported estimates on the size of the US market.

Though it is clear that currently available waste-water studies are not, as yet, sufficient in terms of number of studies to come up with reliable national, regional or global estimates, data published so-far show that the results are largely in line with what one could expect, thus lending an additional element of credibility to these results.

In some of the studies, attempts have also been made to estimate the number of cocaine users, based on the amounts consumed. This would work fine if the average per capita consumption levels of cocaine were known. For most cities, this is not the case. With regard to these final back-calculations, from the quantities consumed to the number of users, views between UNODC and the authors of some of the studies differ. Information available to UNODC suggests that the 'average user' consumes far higher quantities of cocaine than it is assumed in these studies. This has important implications. The number of cocaine users, deduced from the amounts consumed, tends to be very high in some of these studies which may not reflect reality. UNODC is currently involved in a multi-city study in Europe to find out more detailed information on the amounts of drugs (including cocaine) consumed, on average, by a drug user, which should assist, inter alia, such studies to work with assumptions that are closer to reality.

In conclusion, UNODC is carefully monitoring the development of new approaches to come up with more reliable data on drug consumption. A first round of waste-water studies in Europe and North America has already provided promising results, which are probably not too far off reality. Most assumptions used in these studies, derived from scientific literature, seem to be reasonable, except for the very last element, the back-calculation from the amounts used to the number of potential drug users. But this is, in fact, an issue which has been long neglected and still needs more research at the local, national and international levels. The approach to identify the amounts consumed seems to work fine whenever a specific marker can be identified for a drug (such as benzoylecgonine for cocaine) and as long as a city or a region has a functioning waste water system, where the water eventually ends up in a river. For the time being, this seems to be a promising new approach for developed countries, less so for developing countries where the basic infrastructure is often not available.

[1] There is also another alternative calculation which leads to similar results. If t the selected sites in each country were those with the highest level of cocaine consumption, one can calculate – for the countries for which info is available - the ratio between the average and the highest cocaine use figure. The average of the averages shows a ratio of 0.5, which means that the highest value is, on average, about twice as high as the national average. Correcting the data for the countries where only one site was investigated, would reduce the figure for the selected 10 countries to 96 tons, which - extrapolated to West and Central Europe as a whole – would result in an estimate of 132 metric tons.

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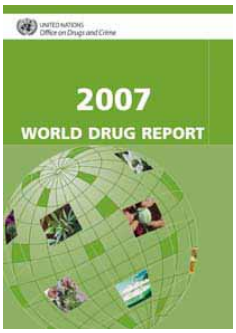

The *World Drug Report* presents the most comprehensive statistical view of today's illicit drug situation. This year's edition reports signs of long-term containment of the world problem. The overall trend masks however contrasted regional situations, which the report examines in detail. For instance, while an impressive multi-year reduction in opium poppy cultivation continued in South East Asia, Afghanistan recorded a large increase in 2006. Growing interceptions of cocaine and heroin shipments across the world have played an important part in stabilizing the market. However, as we witness successes in some areas, challenges appear in others. Although drug abuse levels are stabilizing globally, countries along major and new trafficking routes, such as those now going through Africa, may face increasing levels of drug consumption. *The World Drug Report 2007* also discusses a possible method to better assess and monitor the role played by organized crime in transnational drug trafficking.

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